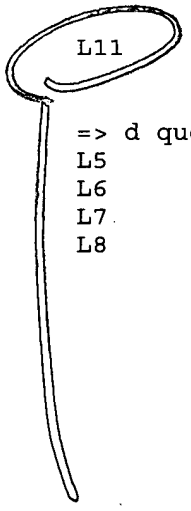
```
     FILE 'CAPLUS, WPIDS, MEDLINE, EMBASE' ENTERED AT 17:47:58 ON 17 JAN 2003
L1          4597 S LANTHNUM OR LANTHANA OR LACL3
L2            23 S L1 (L) (BONE OR OSTEOPOROSIS OR OSTEOBLAST? OR OSTEOCLAST?)
L3            12 DUP REM L2 (11 DUPLICATES REMOVED)

     FILE 'REGISTRY' ENTERED AT 17:57:03 ON 17 JAN 2003
L4             0 S LA/EC
L5         59263 S LA/ELS
L6         51532 S LANTHANUM OR LANTHANITE
L7         59345 S L5 OR L6

     FILE 'CAPLUS' ENTERED AT 18:00:56 ON 17 JAN 2003
L8          1290 S L7 AND (BONE OR BONES OR FRACTURE# OR OSTEOPORO? OR PATET? D
L9             2 S L7 AND (MULTIPLE MYELOMA OR ABNORMAL BONE TURNOVER# OR OSTEO
L10          212 S L7 (L) (BONE OR BONES OR FRACTURE# OR OSTEOPORO? OR PATET? D
L11          213 S L10 OR L9

=> d que
L5         59263 SEA FILE=REGISTRY LA/ELS
L6         51532 SEA FILE=REGISTRY LANTHANUM OR LANTHANITE
L7         59345 SEA FILE=REGISTRY L5 OR L6
L9             2 SEA FILE=CAPLUS L7 AND (MULTIPLE MYELOMA OR ABNORMAL BONE
                 TURNOVER# OR OSTEOLYTIC BONE DISEASE# OR OSTEOMALACIA OR
                 PERIODONTAL DISEASE#)
L10          212 SEA FILE=CAPLUS L7 (L) (BONE OR BONES OR FRACTURE# OR OSTEOPORO
                 ? OR PATET? DISEASE OR RICKET? OR OSTEOARTHRITIS OR ARTHRITIS
                 OR ACHONDROPLAS? OR OSTEOCHODRYT? OR HYPERPARATHYROID? OR
                 OSTEOGENESIS IMPERFECT? OR HYPOPHOSPHATASIA OR FRIBROMATOUS
                 LESION# OR FIBROUS DISPLAS?)
L11          213 SEA FILE=CAPLUS L10 OR L9

=> d que l8
L5         59263 SEA FILE=REGISTRY LA/ELS
L6         51532 SEA FILE=REGISTRY LANTHANUM OR LANTHANITE
L7         59345 SEA FILE=REGISTRY L5 OR L6
L8          1290 SEA FILE=CAPLUS L7 AND (BONE OR BONES OR FRACTURE# OR OSTEOPORO
                 ? OR PATET? DISEASE OR RICKET? OR OSTEOARTHRITIS OR ARTHRITIS
                 OR ACHONDROPLAS? OR OSTEOCHODRYT? OR HYPERPARATHYROID? OR
                 OSTEOGENESIS IMPERFECT? OR HYPOPHOSPHATASIA OR FRIBROMATOUS
                 LESION# OR FIBROUS DISPLAS?)
```



All Reviewed online
Many false hits due to "fracture" - metals

L12 to L22

```
     FILE 'REGISTRY' ENTERED AT 18:51:56 ON 17 JAN 2003
L12           7 S 587-26-8 OR 7439-91-0D OR 10099-58-8 OR 1009959-9 OR 7439-91-
L13           7 S L12 OR LANTHANUM/CN

     FILE 'WPIDS, MEDLINE, EMBASE, BIOBUSINESS, BIOSIS, DRUGNL, DRUGU, DRUGB,
     EUROPATFULL, JAPIO' ENTERED AT 18:56:14 ON 17 JAN 2003

     FILE 'REGISTRY' ENTERED AT 18:56:28 ON 17 JAN 2003
               SET SMARTSELECT ON
L14          SEL L13 1- CHEM :      42 TERMS
               SET SMARTSELECT OFF

     FILE 'WPIDS, MEDLINE, EMBASE, BIOBUSINESS, BIOSIS, DRUGNL, DRUGU, DRUGB,
     EUROPATFULL, JAPIO' ENTERED AT 18:56:29 ON 17 JAN 2003

     FILE 'REGISTRY' ENTERED AT 19:01:44 ON 17 JAN 2003
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L15          SEL L13 1- CHEM :      42 TERMS
               SET SMARTSELECT OFF

     FILE 'WPIDS, MEDLINE, EMBASE, BIOBUSINESS, BIOSIS, DRUGNL, DRUGU, DRUGB,
     EUROPATFULL, JAPIO' ENTERED AT 19:01:45 ON 17 JAN 2003

     FILE 'WPIDS, MEDLINE, EMBASE, BIOSIS, DRUGNL, DRUGU, DRUGB, JAPIO'
     ENTERED AT 19:07:09 ON 17 JAN 2003

     FILE 'REGISTRY' ENTERED AT 19:07:15 ON 17 JAN 2003
               SET SMARTSELECT ON
L16          SEL L13 1- CHEM :      42 TERMS
               SET SMARTSELECT OFF

     FILE 'WPIDS, MEDLINE, EMBASE, BIOSIS, DRUGNL, DRUGU, DRUGB, JAPIO'
     ENTERED AT 19:07:16 ON 17 JAN 2003
L17       22822 S L16/BI
L18       28598 S L17 OR LANTHANUM OR LA3 OR LAIII OR (LA (2W) (3 OR III))
L19         108 S L18 (35A) (BONE OR BONES OR OSTEOPORO? OR PATET? DISEASE OR R
L20          27 S L18 (35A) (MULTIPLE MYELOMA OR ABNORMAL BONE TURNOVER# OR OST
L21         119 S L19 OR L20
L22          73 DUP REM L21 (46 DUPLICATES REMOVED)

=> d que l22
L12           7 SEA FILE=REGISTRY 587-26-8 OR 7439-91-0D OR 10099-58-8 OR
                  1009959-9 OR 7439-91-0 OR 1312-81-8 OR 537-03-1 OR 105333-26-4
                  OR 105333-27-5
L13           7 SEA FILE=REGISTRY L12 OR LANTHANUM/CN
L16             SEL  L13 1- CHEM :      42 TERMS
L17       22822 SEA L16/BI
L18       28598 SEA L17 OR LANTHANUM OR LA3 OR LAIII OR (LA (2W) (3 OR III))
L19         108 SEA L18 (35A) (BONE OR BONES OR OSTEOPORO? OR PATET? DISEASE
                  OR RICKET? OR OSTEOARTHRITIS OR ARTHRITIS OR ACHONDROPLAS? OR
                  OSTEOCHODRYT? OR HYPERPARATHYROID? OR OSTEOGENESIS IMPERFECT?
                  OR HYPOPHOSPHATASIA OR FRIBROMATOUS LESION# OR FIBROUS
                  DISPLAS?)
L20          27 SEA L18 (35A) (MULTIPLE MYELOMA OR ABNORMAL BONE TURNOVER# OR
                  OSTEOLYTIC BONE DISEASE# OR OSTEOMALACIA OR PERIODONTAL
                  DISEASE# OR OSTEOBLAST? OR OSTEOCLAST? OR ARTHRITIC?)
L21         119 SEA L19 OR L20
L22          73 DUP REM L21 (46 DUPLICATES REMOVED)
```

Search would not run

STN kicked out before completion

∴ Did this instead

L22 ANSWER 1 OF 73 MEDLINE
AN 2002689862 IN-PROCESS
DN 22338459 PubMed ID: 12451594
TI Actin-based endosome and phagosome rocketing in macrophages: activation by the secretagogue antagonists lanthanum and zinc.
AU Southwick Frederick S; Li Wei; Zhang Fangliang; Zeile William L; Purich Daniel L
CS Department of Medicine, University of Florida College of Medicine, Gainesville.
SO CELL MOTILITY AND THE CYTOSKELETON, (2003 Jan) 54 (1) 41-55. Journal code: 8605339. ISSN: 0886-1544.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS IN-PROCESS; NONINDEXED; Priority Journals
ED Entered STN: 20021214
Last Updated on STN: 20021214
AB Although motile endocytic vesicles form actin-rich rocket tails [Merrifield et al., 1999: Nature Cell Biol 1:72-74], the mechanism of intracellular organelle locomotion remains poorly understood. We now demonstrate that **bone** marrow macrophages treated with **lanthanum** and zinc ions, well-known secretagogue antagonists, reliably exhibit vesicle motility. This treatment results in accentuated membrane ruffling and the formation of phagosomes and early endosomes that move rapidly through the cytoplasm by assembling actin filament rocket tails. Protein-specific immunolocalization demonstrated the presence of Arp2/3 complex in the polymerization zone and throughout the actin-rich tail, whereas N-WASP was most abundant in the polymerization zone. Although Arp2/3 and N-WASP play essential roles in nucleating filament assembly, other processes (i.e., elongation and filament cross-linking) are required to produce forces needed for motility. Efficient elongation was found to require zyxin, VASP, and profilin, proteins that interact by means of their ABM-1 and ABM-2 proline-rich motifs. The functional significance of these motifs was demonstrated by inhibition of vesicle motility by the motif-specific ABM-1 and ABM-2 analogues. Furthermore, lanthanum/zinc treatment also facilitated the early onset of actin-based vaccinia motility, a process that also utilizes Arp2/3 and N-WASP for nucleation and the zyxin-VASP-profilin complex for efficient elongation. Although earlier studies using cell extracts clouded the role of oligoproline sequences in activating the polymerization zone, our studies emphasize the importance of evaluating motility in living cells. Cell Motil. Cytoskeleton 54:41-55, 2003.

AB . . . et al., 1999: Nature Cell Biol 1:72-74], the mechanism of intracellular organelle locomotion remains poorly understood. We now demonstrate that **bone** marrow macrophages treated with **lanthanum** and zinc ions, well-known secretagogue antagonists, reliably exhibit vesicle motility. This treatment results in accentuated membrane ruffling and the formation. . .

L22 ANSWER 2 OF 73 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-147852 [19] WPIDS
DNC C2002-045891
TI Use of **lanthanum** (III) compounds for enhancing **bone** formation, inhibiting **osteoclastic** differentiation and/or activating **osteoblastic** differentiation to treat **bone** disease such as **osteoporosis**.
DC B06
IN ATHERTON, N D; GAITONDE, M D; TOTTEN, J W
PA (SHIR-N) SHIRE HOLDINGS AG
CYC 96
PI WO 2002000227 A2 20020103 (200219)* EN 60p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ

NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU
SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
US 2002051822 A1 20020502 (200234)
AU 2001074341 A 20020108 (200235)
ADT WO 2002000227 A2 WO 2001-GB2836 20010626; US 2002051822 A1 US 2001-891206 20010626; AU 2001074341 A AU 2001-74341 20010626
FDT AU 2001074341 A Based on WO 200200227
PRAI GB 2000-15745 20000627
AB WO 200200227 A UPAB: 20020321
NOVELTY - Enhancing **bone** formation, inhibiting **osteoclastic** differentiation and/or activating **osteoblastic** differentiation to manage, treat or achieve prophylaxis of **bone** disease comprises administering a **lanthanum** compound (preferably **lanthanum** (III)) to a human or animal.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a composition for the treatment of a **bone** remodeling disorder comprising the **lanthanum** (III) compound and a **bone** enhancing agent.

ACTIVITY - Osteopathic; Cytostatic; Antiarthritic; Antirheumatic; Antiinflammatory.

MECHANISM OF ACTION - Osteoblast differentiation stimulator; Osteoclast differentiation inhibitor. 8-10 week old mice were killed and tibia and femora were dissected free from adhering soft tissues. The bone ends were cut off and the marrow was flushed with alpha -minimal essential medium (alpha -MEM) supplemented with penicillin (100 IU/ml) and streptomycin (100 micro g/ml). Cells were centrifuged for 10 minutes and the cell pellet was resuspended in alpha -MEM containing 10% fetal calf serum. Cells were then incubated for 2 hours at 370 deg. C.

Nonadherent cells were duly removed and the attached bone marrow cells were cultured (1 multiply 106 cells/well = 1 ml) for 6 days.

Half of the media were changed at day 3 and the treatments replaced. At the end of the culture, the plates were fixed with 2% paraformaldehyde in PBS for 20 minutes.

To study the effect of the **lanthanum** (III) ion on **Osteoclast** differentiation, the following groups were included:

(A) baseline (including vehicle);

(B) control (baseline without 1,25-dihydroxyvitamin D3);

(C) baseline + 100/500/1000/5000/15000 ng/ml lanthanum.

Six replicates were included in each group and the test was performed twice.

Osteoclast formation was determined by measuring tartrate-resistant acid phosphate (TRAP) activity from the culture media.

Combined results of relative TRAP 5b activities in three **osteoclast** differentiation assay were as follows: **Osteoclast** number for A) = 18; B) = 18; C) = 18/12/12/12/12 for 100/500/1000/5000/15000 ng/ml **lanthanum** respectively; Mean plus or minus SD for A) = 1 plus or minus 0.36; B) 0.15 plus or minus 0.07; C) = 0.70 plus or minus 0.27/0.89 plus or minus 0.29/0.65 plus or minus 0.23/0.05 plus or minus 0.20/0.30 plus or minus 0.19 for 100/500/1000/5000/15000 ng/ml lanthanum respectively.

The above data showed that a clear dose-dependent inhibition was observed with lanthanum (500 - 15000 ng/ml) that was statistically significant from lanthanum (1000 - 15000 ng/ml).

A statistically significant inhibition was also observed with **lanthanum** (100 ng/ml). In the control group where vitamin D was omitted, **osteoclast** differentiation was significantly lower than in the baseline group.

USE - For enhancing bone formation in a mammal (preferably human) having a bone deficit or risk of developing bone deficit or a bone remodeling disorder or is at risk of developing such disorder, e.g.

osteoporosis, including primary, secondary, post-menopausal, male or steroid-induced osteoporosis, Paget's disease, osteoarthritis, rheumatoid arthritis, achondroplasia, osteochodrytis, hyperparathyroidism, osteogenesis imperfecta, congenital hypophosphatasia, fibromatous lesions, fibrous displasia, multiple myeloma, abnormal bone turnover, osteolytic bone disease, rickets, osteomalacia and periodontal disease; for treating a human having a bone fracture, bone trauma, or a condition associated with post-traumatic bone surgery, post-prosthetic joint surgery, post-plastic bone surgery, post-dental surgery, bone chemotherapy treatment or bone radiotherapy treatment.

In the preparation of a medicament for treating the above disease and conditions (all claimed).

ADVANTAGE - The **lanthanum** significantly enhances **bone** formation in vitro and vivo and also increases **bone** density in mammals. The **lanthanum** provides simultaneous actions of stimulating **osteoblast** differentiation and inhibiting **osteoclast** differentiation, and also activates **bone** formation activity of differentiated **osteoclasts**.

Dwg.0/4

TI Use of **lanthanum** (III) compounds for enhancing **bone** formation, inhibiting **osteoclastic** differentiation and/or activating **osteoblastic** differentiation to treat **bone** disease such as **osteoporosis**.

AB WO 200200227 UPAB: 20020321

NOVELTY - Enhancing **bone** formation, inhibiting **osteoclastic** differentiation and/or activating **osteoblastic** differentiation to manage, treat or achieve prophylaxis of **bone** disease comprises administering a **lanthanum** compound (preferably **lanthanum** (III)) to a human or animal.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a composition for the treatment of a **bone** remodeling disorder comprising the **lanthanum** (III) compound and a **bone** enhancing agent.

ACTIVITY - Osteopathic; Cytostatic; Antiarthritic; Antirheumatic; Antiinflammatory.

MECHANISM OF ACTION - Osteoblast differentiation stimulator; Osteoclast differentiation. . . culture, the plates were fixed with 2% paraformaldehyde in PBS for 20 minutes.

To study the effect of the **lanthanum** (III) ion on **Osteoclast** differentiation, the following groups were included:

(A) baseline (including vehicle);

(B) control (baseline without 1,25-dihydroxyvitamin D3);

(C) baseline. . . measuring tartrate-resistant acid phosphate (TRAP) activity from the culture media.

Combined results of relative TRAP 5b activities in three **osteoclast** differentiation assay were as follows: **Osteoclast** number for A) = 18; B) = 18; C) = 18/12/12/12/12 for 100/500/1000/5000/15000 ng/ml **lanthanum** respectively; Mean plus or minus SD for A) = 1 plus or minus 0.36; B) 0.15 plus or minus 0.07;. . . ng/ml) that was statistically significant from lanthanum (1000 - 15000 ng/ml).

A statistically significant inhibition was also observed with **lanthanum** (100 ng/ml). In the control group where vitamin D was omitted, **osteoclast** differentiation was significantly lower than in the baseline group.

USE - For enhancing bone formation in a mammal (preferably. . .

In the preparation of a medicament for treating the above disease and conditions (all claimed).

ADVANTAGE - The **lanthanum** significantly enhances **bone** formation in vitro and vivo and also increases **bone** density in mammals. The **lanthanum** provides simultaneous actions of stimulating **osteoblast** differentiation and inhibiting **osteoclast** differentiation, and also activates **bone**

formation activity of differentiated **osteoclasts**.
Dwg.0/4

TT TT: **LANTHANUM** COMPOUND ENHANCE **BONE** FORMATION INHIBIT DIFFERENTIAL ACTIVATE DIFFERENTIAL TREAT **BONE** DISEASE **OSTEOPOROSIS**.

L22 ANSWER 3 OF 73 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-373437 [41] WPIDS
DNN N2002-291874 DNC C2002-105744
TI Joined body, useful as high pressure discharge lamp, comprises joining portion interposed between metal member and ceramic or cermet member and which has main phase and intermediate ceramic composition layer.
DC L02 L03 X26
IN NIIMI, N
PA (NIGA) NGK INSULATORS LTD
CYC 30
PI EP 1170770 A1 20020109 (200241)* EN 33p
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR
CN 1330383 A 20020109 (200241)
CZ 2001002448 A3 20020213 (200241)
HU 2001002760 A2 20020328 (200241)
US 2002033670 A1 20020321 (200241)
US 2002033671 A1 20020321 (200241)
ADT EP 1170770 A1 EP 2001-305478 20010625; CN 1330383 A CN 2001-117579 20010703; CZ 2001002448 A3 CZ 2001-2448 20010703; HU 2001002760 A2 HU 2001-2760 20010703; US 2002033670 A1 CIP of US 2000-631419 20000803, US 2001-794760 20010227; US 2002033671 A1 CIP of US 2000-631419 20000803, CIP of US 2001-794760 20010227, US 2001-847058 20010501
PRAI JP 2001-134489 20010501; JP 2000-200536 20000703; JP 2001-51413 20010227
AB EP 1170770 A UPAB: 20020701
NOVELTY - A joined body of metal member and ceramic or cermet member comprises a joining portion comprising a main phase and an intermediate ceramic composition layer. The main phase comprises a porous bone with open pores and ceramic composition layer impregnated into the open pores. Each of intermediate and impregnated ceramic composition layer has crystallinity of more than 50%.

DETAILED DESCRIPTION - A joined body of metal member (7) and ceramic or cermet member (4) comprises a joining portion comprising a main phase contacting the metal member and an intermediate ceramic composition layer contacting the ceramic or cermet member. The intermediate ceramic composition layer exists between the ceramic or cermet member and main phase. The main phase comprises a porous bone with open pores and ceramic composition layer impregnated into the open pores. The main phase is made of sintered product of powder of a metal. Each of intermediate and impregnated ceramic composition layer has crystallinity of more than 50%.

An INDEPENDENT CLAIM is also included for a high pressure discharge lamp comprising a ceramic discharge tube (1) with inner space and end portions (1a), an electrode system (18, 27) and a metal member. The inner space is filled with ionizable light emitting material and a starter gas. An opening is formed within the end portion.

USE - Useful as high pressure discharge lamp.

ADVANTAGE - The joined body has high strength and resistance to fatigue and fracture even if it is subjected to repeated thermal cycles between room temperature and higher than 1,000 deg. C. It has improved resistance to corrosive gas e.g. metal halides and has improved airtightness.

DESCRIPTION OF DRAWING(S) - The drawing shows a high pressure discharge lamp.

Ceramic discharge tube 1
End portions 1a
Ceramic or cermet member 4
Metal member 7

Electrode system 18, 27
Dwg.15/21
TECH. . .
Components: The metal member is tubular. The oxide(s) in the ceramic member can be aluminum oxide, scandium oxide, yttrium oxide, **lanthanum oxide**, gadolinium oxide, dysprosium oxide, holmium oxide, thulium oxide, silicon dioxide, molybdenum dioxide or molybdenum trioxide. The metal member comprises molybdenum, tungsten, rhenium, niobium, tantalum and/or their alloys. Preferred Parameters: The porous **bone** structure has porosity of open pores of 30-80%. The intermediate ceramic layer and impregnated ceramic phase has crystallinity of not. . .

L22 ANSWER 4 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2002:606406 BIOSIS
DN PREV200200606406
TI FosrenolTM (**lanthanum carbonate**) vs. calcium carbonate for the treatment of hyperphosphataemia: A comparison of the effects on **bone** using biopsy examination.
AU De Broe, Marc E. (1)
CS (1) Department of Nephrology, University of Antwerp, Antwerp Belgium
SO Journal of the American Society of Nephrology, (September, 2002) Vol. 13, No. Program and Abstracts Issue, pp. 769A. http://www.jasn.org/. print. Meeting Info.: Meeting of the American Society of Nephrology Philadelphia, PA, USA October 30-November 04, 2002 American Society of Nephrology . ISSN: 1046-6673.
DT Conference
LA English
TI FosrenolTM (**lanthanum carbonate**) vs. calcium carbonate for the treatment of hyperphosphataemia: A comparison of the effects on **bone** using biopsy examination.

L22 ANSWER 5 OF 73 DRUGU COPYRIGHT 2003 THOMSON DERWENT
AN 2002-42056 DRUGU T S
TI Fosrenol (**lanthanum carbonate**) vs. calcium carbonate for the treatment of hyperphosphataemia: A comparison of the effects on **bone** using biopsy examination.
AU De Broe M E
CS Univ.Antwerp
LO Antwerp, Belg.
SO J.Am.Soc.Nephrol. (13, Abstr.Iss., 769A, 2002) 1 Tab. ISSN: 1533-3450
AV Department of Nephrology, University of Antwerp, Antwerp, Belgium.
LA English
DT Journal
FA AB; LA; CT
FS Literature
AB In this open-label study 98 patients with end-stage renal disease (ESRD) were randomized to receive either lanthanum carbonate (FOS, Fosrenol, Shire) or calcium carbonate (CA) for 50 wk. Both treatments were able to control phosphate levels and adverse events were similar in both groups, although hypercalcemia occurred more often in the CA-treated group. Given the potential association between hypercalcemia and metastatic calcification, FOS may represent a superior treatment for hyperphosphatemia compared with calcium-based agents. (conference abstract: Annual Meeting of the American Society of Nephrology, Philadelphia, Pennsylvania, USA, 2002).
TI Fosrenol (**lanthanum carbonate**) vs. calcium carbonate for the treatment of hyperphosphataemia: A comparison of the effects on **bone** using biopsy examination.
ABEX Methods 98 Patients with ESRD were randomized to either FOS (maximum dose of **lanthanum** 3.75 g/day) or CA (maximum dose of calcium 9 g/day) for 50 wk. **Bone** histomorphology was examined after double-labelled tetracycline administration at the start of the study and

after 1 yr of treatment. Results. . .

L22 ANSWER 6 OF 73 MEDLINE DUPLICATE 1
AN 2002146307 MEDLINE
DN 21869273 PubMed ID: 11880034
TI A mass spectrometric study of metal binding to osteocalcin.
AU Nousiainen Marjaana; Derrick Peter J; Kaartinen Mari T; Maenpaa Pekka H; Rouvinen Juha; Vainiotalo Pirjo
CS Department of Chemistry, University of Joensuu, Post Office Box 111, FIN-80101 Joensuu, Finland.
SO CHEMISTRY AND BIOLOGY, (2002 Feb) 9 (2) 195-202.
Journal code: 9500160. ISSN: 1074-5521.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200207
ED Entered STN: 20020307
Last Updated on STN: 20020702
Entered Medline: 20020701
AB Electrospray ionization Fourier transform ion cyclotron resonance mass spectrometry was used to investigate Ca(2+), Mg(2+), and **La**(3+) binding to bovine **bone** osteocalcin (OCN). OCN was shown to bind 3 mol Ca(2+) per mol protein. There was also evidence for the presence of four additional metal binding sites. Ca(2+) increased the formation of the OCN dimer. Mg(2+) bound to OCN to the same extent as Ca(2+) but did not induce the dimerization of OCN. La(3+) bound to a lesser extent than either Ca(2+) or Mg(2+) to OCN and, like Mg(2+), did not influence dimerization. Each Gla residue of OCN participates in Ca(2+) binding, whereas Mg(2+) binding may occur preferentially at sites other than Gla residues. This implies that the different natures of Ca(2+)- and Mg(2+)-containing OCN complexes influence the tendency of OCN to form a dimer.
AB Electrospray ionization Fourier transform ion cyclotron resonance mass spectrometry was used to investigate Ca(2+), Mg(2+), and **La**(3+) binding to bovine **bone** osteocalcin (OCN). OCN was shown to bind 3 mol Ca(2+) per mol protein. There was also evidence for the presence. . .

L22 ANSWER 7 OF 73 MEDLINE DUPLICATE 2
AN 2002172256 MEDLINE
DN 21901855 PubMed ID: 11904357
TI Cadmium overload and toxicity.
AU Jarup Lars
CS Imperial College Faculty of Medicine, St Mary's Campus, Norfolk Place, London W2 1PG, UK.. l.jarup@ic.ac.uk
SO NEPHROLOGY, DIALYSIS, TRANSPLANTATION, (2002) 17 Suppl 2 35-9.
Journal code: 8706402. ISSN: 0931-0509.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200208
ED Entered STN: 20020321
Last Updated on STN: 20020816
Entered Medline: 20020815
AB Studies suggest that cadmium is associated with several clinical complications, primarily renal dysfunction and bone disease, but also some cancers. Cadmium toxicity has been associated with clinical manifestations at exposure levels that are well below the limits set by the World Health Organization. Here I review the OSCAR study, which demonstrates an association between environmental and occupational cadmium exposure and renal tubular damage, as well as the Cadmibel study, a cross-sectional population study demonstrating an association of cadmium exposure with

renal dysfunction. The paper also reviews the association of end-stage renal disease prevalence with occupational and environmental exposure to cadmium in the Swedish population of Kalmar County. Renal tubular damage was shown to develop at levels of exposure much lower than previously thought. Cadmium-induced tubular proteinuria is irreversible, and continued exposure may lead to glomerular damage with decreased glomerular filtration rate. Itai-itai disease in the Jinzu river basin is discussed, as are the implications of low-level cadmium exposure in the PheeCad project. Cadmium accumulates in **bone** and is associated with **osteomalacia** and **osteoporosis**. Other **bone** -seeking trace elements, such as chromium, **lanthanum**, strontium and zinc, are of concern because of low level environmental, occupational or clinical exposure. As techniques are perfected for detecting smaller amounts of trace elements in various tissues in the body, investigators are finding that the threshold for toxicity from trace elements is much lower than expected. Further research on cadmium is necessary to reveal the mechanisms of toxicity and true environmental and occupational exposure limits.

AB . . . Jinzu river basin is discussed, as are the implications of low-level cadmium exposure in the PheeCad project. Cadmium accumulates in **bone** and is associated with **osteomalacia** and **osteoporosis**. Other **bone**-seeking trace elements, such as chromium, **lanthanum**, strontium and zinc, are of concern because of low level environmental, occupational or clinical exposure. As techniques are perfected for. . .

L22 ANSWER 8 OF 73 MEDLINE DUPLICATE 3
AN 2002172252 MEDLINE
DN 21901848 PubMed ID: 11904350
TI The role of trace elements in uraemic toxicity.
AU Vanholder Raymond; Cornelis Rita; Dhondt Annemieke; Lameire Norbert
CS University Hospital Gent, Department of Internal Medicine, Nephrology Division, De Pintelaan 185, B 9000 Gent, Belgium.. vanholder@rug.ac.be
SO NEPHROLOGY, DIALYSIS, TRANSPLANTATION, (2002) 17 Suppl 2 2-8. Ref: 55
Journal code: 8706402. ISSN: 0931-0509.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 200208
ED Entered STN: 20020321
Last Updated on STN: 20020816
Entered Medline: 20020815

AB Although most research on uraemic toxicity has focused on the retention or removal of organic solutes, subtle changes in the concentration of inorganic compounds are also of importance because these compounds may have significant clinical consequences. Potential clinical implications include increased risk of cancer, cardiovascular disease, immune deficiency, anaemia, renal function impairment and bone disease. In uraemic patients, the most important factor affecting trace element concentration is the degree of renal failure and modality of renal replacement therapy. Accumulation of trace elements in haemodialysis patients has resulted from dialysate contaminated with aluminium and strontium. Several trace elements have been implicated in the decline of renal function. These include arsenic, cadmium, copper, germanium, lead and mercury. In uraemic patients, aluminium, cadmium, chromium, **lanthanum**, strontium and zinc have been shown to accumulate in **bone**. In addition to substantial evidence linking aluminium to renal osteodystrophy, studies have also implicated cadmium, iron and strontium in **bone** disease. Studies using a rat model of chronic renal failure have demonstrated an association between **lanthanum** accumulation and mineralization defects characteristic of

osteomalacia. Investigations of arsenic accumulation in animal models have demonstrated that speciation of trace elements potentially may alter toxicities of trace elements accumulated in uraemic patients. Conversely, the presence of uraemic toxins may also alter the uptake and toxicity of certain trace elements. Although research in uraemic patients has focused primarily on total concentrations of trace elements, the evolution of both inorganic and organic species should be considered separately.

AB . . . the decline of renal function. These include arsenic, cadmium, copper, germanium, lead and mercury. In uraemic patients, aluminium, cadmium, chromium, **lanthanum**, strontium and zinc have been shown to accumulate in **bone**. In addition to substantial evidence linking aluminium to renal osteodystrophy, studies have also implicated cadmium, iron and strontium in **bone** disease. Studies using a rat model of chronic renal failure have demonstrated an association between **lanthanum** accumulation and mineralization defects characteristic of **osteomalacia**. Investigations of arsenic accumulation in animal models have demonstrated that speciation of trace elements potentially may alter toxicities of trace. . .

L22 ANSWER 9 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2001:324967 BIOSIS
DN PREV200100324967
TI Activation of P2Y but not P2X4 nucleotide receptors causes elevation of (Ca2+)i in mammalian osteoclasts.
AU Weidema, A. Frederik; Dixon, S. Jeffrey; Sims, Stephen M. (1)
CS (1) Dept. of Physiology, Univ. of Western Ontario, London, ON, N6A 5C1: stephen.sims@med.uwo.ca Canada
SO American Journal of Physiology, (June, 2001) Vol. 280, No. 6 Part 1, pp. C1531-C1539. print.
ISSN: 0002-9513.
DT Article
LA English
SL English
AB Extracellular nucleotides cause elevation of cytosolic free Ca2+ concentration ((Ca2+)i) in osteoclasts, although the sources of Ca2+ are uncertain. Activation of P2Y receptors causes Ca2+ release from stores, whereas P2X receptors are ligand-gated channels that mediate Ca2+ influx in some cell types. To examine the sources of Ca2+, we studied osteoclasts from rat and rabbit using fura 2 fluorescence and patch clamp. Nucleotide-induced rise of (Ca2+)i persisted on removal of extracellular Ca2+ (Cao2+), indicating involvement of stores. Inhibition of phospholipase C (PLC) with U-73122 or inhibition of endoplasmic reticulum Ca2+-ATPase with cyclopiazonic acid or thapsigargin abolished the rise of (Ca2+)i. After store depletion in the absence of Cao2+, addition of Cao2+ led to a rise of (Ca2+)i consistent with store-operated Ca2+ influx. Store-operated Ca2+ influx was greater at negative potentials and was blocked by **La3+**. In patch-clamp studies where PLC was blocked, ATP induced inward current indicating activation of P2X4 nucleotide receptors, but with no rise of (Ca2+)i. We conclude that nucleotide-induced elevation of (Ca2+)i in **osteoclasts** arises primarily through activation of P2Y nucleotide receptors, leading to release of Ca2+ from intracellular stores.
AB. . . rise of (Ca2+)i consistent with store-operated Ca2+ influx. Store-operated Ca2+ influx was greater at negative potentials and was blocked by **La3+**. In patch-clamp studies where PLC was blocked, ATP induced inward current indicating activation of P2X4 nucleotide receptors, but with no rise of (Ca2+)i. We conclude that nucleotide-induced elevation of (Ca2+)i in **osteoclasts** arises primarily through activation of P2Y nucleotide receptors, leading to release of Ca2+ from intracellular stores.

L22 ANSWER 10 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2001:441295 BIOSIS

DN PREV200100441295
TI Comparisons of CapG and gelsolin-null macrophages: Demonstration of a unique role for CapG in receptor-mediated ruffling, phagocytosis, and vesicle rocketing.
AU Witke, Walter; Li, Wei; Kwiatkowski, David J. (1); Southwick, Frederick S.
CS (1) Division of Experimental Medicine, Brigham and Women's Hospital, Harvard Medical School, 221 Longwood Ave., Boston, MA, 02115: dkwiatkowski@rics.bwh.harvard.edu USA
SO Journal of Cell Biology, (August 20, 2001) Vol. 154, No. 4, pp. 775-784. print.
ISSN: 0021-9525.
DT Article
LA English
SL English
AB Capping the barbed ends of actin filaments is a critical step for regulating actin-based motility in nonmuscle cells. The in vivo function of CapG, a calcium-sensitive barbed end capping protein and member of the gelsolin/villin family, has been assessed using a null Capg allele engineered into mice. Both CapG-null mice and CapG/gelsolin double-null mice appear normal and have no gross functional abnormalities. However, the loss of CapG in **bone** marrow macrophages profoundly inhibits macrophage colony stimulating factor-stimulated ruffling; reintroduction of CapG protein by microinjection fully restores this function. CapG-null macrophages also demonstrate apprx50% impairment of immunoglobulin G, and complement-opsonized phagocytosis and **lanthanum**-induced vesicle rocketing. These motile functions are not impaired in gelsolin-null macrophages and no additive effects are observed in CapG/gelsolin double-null macrophages, establishing that CapG function is distinct from, and does not overlap with, gelsolin in macrophages. Our observations indicate that CapG is required for receptor-mediated ruffling, and that it is a major functional component of macrophage phagocytosis. These primary effects on macrophage motile function suggest that CapG may be a useful target for the regulation of macrophage-mediated inflammatory responses.
AB. . . CapG-null mice and CapG/gelsolin double-null mice appear normal and have no gross functional abnormalities. However, the loss of CapG in **bone** marrow macrophages profoundly inhibits macrophage colony stimulating factor-stimulated ruffling; reintroduction of CapG protein by microinjection fully restores this function. CapG-null macrophages also demonstrate apprx50% impairment of immunoglobulin G, and complement-opsonized phagocytosis and **lanthanum**-induced vesicle rocketing. These motile functions are not impaired in gelsolin-null macrophages and no additive effects are observed in CapG/gelsolin double-null. . .

L22 ANSWER 11 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2002:320928 BIOSIS
DN PREV200200320928
TI An assessment of the effects of **lanthanum** on **bone** in a chronic renal failure (CRF) rat model.
AU Behets, Geert J. (1); Dams, Geert (1); Damment, Steve; D'Haese, Patrick C. (1); De Broe, Marc E. (1)
CS (1) Department of Nephrology, University of Antwerp, Antwerp Belgium
SO Journal of the American Society of Nephrology, (September, 2001) Vol. 12, No. Program and Abstract Issue, pp. 740A. http://www.jasn.org/. print.
Meeting Info.: ASN (American Society of Nephrology)/ISN (International Society of Nephrology) World Congress of Nephrology San Francisco, CA, USA October 10-17, 2001
ISSN: 1046-6673.
DT Conference
LA English
TI An assessment of the effects of **lanthanum** on **bone** in a chronic renal failure (CRF) rat model.

L22 ANSWER 12 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

AN 2001:397856 BIOSIS
DN PREV200100397856
TI An assessment of the effects of **lanthanum** on **bone** in a chronic renal failure rat model.
AU Behets, G. J. (1); Dams, G. (1); D'Haese, P. C. (1); Damment, S.; De Broe, M. E. (1)
CS (1) Dept of Nephrology, University of Antwerp, Antwerp Belgium
SO Nephrology Dialysis Transplantation, (June, 2001) Vol. 16, No. 6, pp. A27. print.
Meeting Info.: Annual Congress of the European Renal Association and the European Dialysis and Transplant Association Vienna, Austria June 24-27, 2001
ISSN: 0931-0509.
DT Conference
LA English
SL English
TI An assessment of the effects of **lanthanum** on **bone** in a chronic renal failure rat model.
IT . . .
urologic disease; osteomalacia: bone disease, metabolic disease, nutritional disease; phosphaturia: urologic disease; secondary hyperparathyroidism: endocrine disease/parathyroid
IT Chemicals & Biochemicals
lanthanum carbonate: **bone** toxicity, dose;
phosphate: uptake
IT Alternate Indexing
Kidney Failure, Chronic (MeSH); Osteomalacia (MeSH); Hyperparathyroidism, Secondary (MeSH)

L22 ANSWER 13 OF 73 WPIDS (C) 2003 THOMSON DERWENT
AN 2000-118321 [11] WPIDS
DNN N2000-089659 DNC C2000-036471
TI Recording material, for ink jet printing of photographic quality images.
DC A25 A97 E19 G05 P75 T04
IN PETERNELL, K; STEIGER, R
PA (ILFO) ILFORD IMAGING SWITZERLAND GMBH
CYC 27
PI EP 974471 A1 20000126 (200011)* DE 14p
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
JP 2000052648 A 20000222 (200020) 9p
US 6420016 B1 20020716 (200248)
ADT EP 974471 A1 EP 1998-810711 19980723; JP 2000052648 A JP 1999-209731 19990723; US 6420016 B1 US 1999-360886 19990723
PRAI EP 1998-810711 19980723
AB EP 974471 A UPAB: 20000301
NOVELTY - Recording material for ink jet inks has a gelatin ink absorbing layer that contains a micelle forming compound.
DETAILED DESCRIPTION - Recording material (1) for ink jet inks comprises:
(A) an ink receiving layer; and
(B) a gelatin containing absorption layer; on
(C) a support.
Layer (B) is between (A) and (C), and contains a micelle forming compound consisting of salts of alkyl sulfates of formula (I), salts of alkyl phosphates of formula (II), substituted phenols of formula (III) or salts of substituted phenols of formula (IV).
CnH2n+1OSO3H (I)
CnH2n+1OPO3H2 (II)
n = 5-25
m = 5-55
An INDEPENDENT CLAIM is included for a coating composition for the production of (B).
USE - Used for photograph quality ink jet printing.

ADVANTAGE - The recording material has a high gloss with no adhesion to protective film and a short drying time with a high color density.
Dwg.0/0

TECH. . .
contains 10-50 (20-40) wt.% alkyl sulfate of formula (V). (B) is 3-20 micrometers thick. The gelatin is an alkaline degraded **bone** gelatin.
C12H25OSO3-M+ (V)
M = Na, K, Mg/2, Ca/2, Ba/2 and/or **La/3**

L22 ANSWER 14 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2002:164541 BIOSIS
DN PREV200200164541
TI Actin-based endosome motility in **lanthanum**- & zinc-treated **bone** marrow macrophages.
AU Southwick, Frederick S. (1); Zeile, William (1); Li, Wei (1); Purich, Daniel L.
CS (1) University of Florida, Gainesville, FL, 32610-0245 USA
SO Molecular Biology of the Cell, (Dec., 2000) Vol. 11, No. Supplement, pp. 566a. http://www.molbiolcell.org/. print.
Meeting Info.: 40th American Society for Cell Biology Annual Meeting San Francisco, CA, USA December 09-13, 2000
ISSN: 1059-1524.
DT Conference
LA English
TI Actin-based endosome motility in **lanthanum**- & zinc-treated **bone** marrow macrophages.

L22 ANSWER 15 OF 73 MEDLINE DUPLICATE 4
AN 2000505145 MEDLINE
DN 20507017 PubMed ID: 11055826
TI Clinical and serological aspects of patients with anti-Jo-1 antibodies--an evolving spectrum of disease manifestations.
AU Schmidt W A; Wetzel W; Friedlander R; Lange R; Sorensen H F; Lichey H J; Genth E; Mierau R; Gromnica-Ihle E
CS Medical Centre for Rheumatology, Berlin-Buch, Berlin, Germany.
SO CLINICAL RHEUMATOLOGY, (2000) 19 (5) 371-7.
Journal code: 8211469. ISSN: 0770-3198.
CY Belgium
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215
AB The aim of this study was to compare ELISA, immunodiffusion and immunoblot for the detection of anti-Jo-1 antibodies, and to investigate the association of the results with clinical manifestations. In two medical centres for rheumatology and one for pulmonology, all patients with suspected connective tissue disease were screened over a 5-year period for anti-Jo-1 antibodies by ELISA. Positive sera were controlled in another laboratory by immunodiffusion. If immunodiffusion was negative, sera were controlled again by ELISA. ELISA-positive immunodiffusion-negative sera were tested by immunoblotting. The patients were characterised clinically, and their clinical signs and symptoms were compared with those of 257 patients with anti-Jo-1 antibodies published in 15 case series and 30 case reports. Twenty-five patients had a positive ELISA test. Fifteen sera were positive by ELISA and immunodiffusion (group 1). Three sera showed high titres in both ELISA tests with negative immunodiffusion and immunoblot (group 2). Seven sera showed low titres in both ELISA tests. The results were negative in the other tests (group 3). Patients in groups 1 and 2 could be classified as Jo-1 syndrome patients. Of these 18 patients, 15 had arthritis, 14 had myositis and 14 had interstitial lung disease. Only

four patients had myositis at disease onset. We describe four unusual patients with Jo-1 syndrome in detail: 1. Long history of seronegative rheumatoid **arthritis**; 2. Sjogren's syndrome with Ro- and **La**-antibodies; 3. Scleroderma and bronchial carcinoma with centromere antibodies; 4. Corticoid-sensitive psychosis. Patients with suspected connective tissue disease may be screened for anti-Jo-1 antibodies by ELISA. It detects some patients that are missed by immunodiffusion. Especially lower ELISA titres should be controlled by another method because of the low specificity of the test. The clinical picture is variable. Most patients have features other than myositis at disease onset.

AB . . . myositis at disease onset. We describe four unusual patients with Jo-1 syndrome in detail: 1. Long history of seronegative rheumatoid **arthritis**; 2. Sjogren's syndrome with Ro- and **La** -antibodies; 3. Scleroderma and bronchial carcinoma with centromere antibodies; 4. Corticoid-sensitive psychosis. Patients with suspected connective tissue disease may be screened for. . .

L22 ANSWER 16 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2001:82575 BIOSIS
DN PREV200100082575
TI Changes in cytoplasmic calcium determine the secretory response to extracellular cations in human parathyroid cells: A confocal microscopy study using FM1-43 dye.
AU Mihai, Radu (1); Lai, Teresa; Schofield, George J.; Farndon, John R.
CS (1) University Department of Surgery, Bristol Royal Infirmary, Bristol, BS2 8HW: r_mihai99@hotmail.com UK
SO Biochemical Journal, (1 December, 2000) Vol. 352, No. 2, pp. 353-361. print.
ISSN: 0264-6021.
DT Article
LA English
SL English
AB Whether activation of the calcium receptor (CaR) modulates secretory events was investigated by real-time fluorescence and confocal microscopy using fura 2 and FM1-43 fluorescent dye. Two paradigms were used: human parathyroid cells, which are stimulated by a step from a high to a low extracellular calcium concentration ((Ca2+)ext), and rMTC6-23 cells, a rat medullary thyroid carcinoma cell line whose secretion is stimulated by an increase in (Ca2+)ext. Parathyroid cells were dispersed from parathyroid adenomas removed from 18 patients with primary **hyperparathyroidism** . In both cell types, incubation with FM1-43 (2 muM) resulted in staining of the plasma membranes, which was rapidly increased following changes in (Ca2+)ext known to stimulate secretion. A high (Ca2+)ext and **lanthanum** (La3+) decreased the membrane-associated FM1-43 fluorescence. Prolonged incubation (5-30 min) in the presence of FM1-43 resulted in accumulation of the dye in the cytoplasm, its granular distribution suggesting targeting of the secretory compartment. These data suggest that FM1-43 fluorescence is determined by: (i) changes in cell membrane surface area associated with secretion-associated events, (ii) displacement/quenching by extracellular cations and (iii) endocytosis of the dye. In parathyroid cells, a rise in FM1-43 fluorescence occurred during incubation in a high (inhibitory) (Ca2+)ext if the cytoplasmic calcium concentration ((Ca2+)i) was decreased by the calcium chelator BAPTA/AM (bis-(o-aminophenoxy)ethane-N,N,N',N'-tetra-acetic acid tetrakis(acetoxymethyl ester)) (10-50 muM). Alternatively, the expected rise in FM1-43 fluorescence did not occur during incubation in a low (stimulatory) (Ca2+)ext if (Ca2+)i was increased by addition of the calcium ionophore A23187 (10-25 muM). These data suggest that (Ca2+)i, rather than the absolute value of (Ca2+)ext, is the main modulator of secretion from parathyroid cells.

AB. . . is stimulated by an increase in (Ca2+)ext. Parathyroid cells were dispersed from parathyroid adenomas removed from 18 patients with primary **hyperparathyroidism**. In both cell types, incubation with FM1-43 (2

muM) resulted in staining of the plasma membranes, which was rapidly increased following changes in (Ca2+)ext known to stimulate secretion. A high (Ca2+)ext and **lanthanum** (La3+) decreased the membrane-associated FM1-43 fluorescence. Prolonged incubation (5-30 min) in the presence of FM1-43 resulted in accumulation of the. . .

L22 ANSWER 17 OF 73 MEDLINE DUPLICATE 5
AN 2000325719 MEDLINE
DN 20325719 PubMed ID: 10866699
TI Osmotic membrane stretch increases cytosolic Ca(2+) and inhibits bone resorption activity in rat osteoclasts.
AU Tsuzuki T; Okabe K; Kajiya H; Habu T
CS Department of Removable Prosthodontics, Fukuoka Dental College, Japan.. tsuzuki@college.fdcnet.ac.jp
SO JAPANESE JOURNAL OF PHYSIOLOGY, (2000 Feb) 50 (1) 67-76.
Journal code: 2985184R. ISSN: 0021-521X.
CY Japan
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200007
ED Entered STN: 20000810
Last Updated on STN: 20000810
Entered Medline: 20000721
AB Although the importance of mechanical stress on bone metabolism is well known, the intracellular mechanisms involved are not well understood. To evaluate the role of mechanical stress on osteoclastic function, we investigated the effects of membrane stretch induced by osmotic cell swelling on cytosolic Ca(2+) and bone resorption activity in freshly isolated rat osteoclasts. The intracellular Ca(2+) concentration ([Ca(2+)](i)) was measured by fura-2 microspectrofluorimetry. Exposure to hypotonic solution (211-151 mOsm) caused cell swelling and reversibly increased [Ca(2+)](i) in the **osteoclasts**. This [Ca(2+)](i) increase was abolished by the omission of extracellular Ca(2+), but was not affected by the depletion of intracellular Ca(2+) stores. Gd(3+) and **La**(3+) inhibited the swelling-induced [Ca(2+)](i) increase, while nifedipine and Bay K 8644 did not. Neither protein kinase A inhibitors (Rp-cAMP, H-89) nor protein kinase C inhibitors (staurosporine, chelerythrine) affected the [Ca(2+)](i) increase. Membrane depolarization was not essential for the [Ca(2+)](i) increase either. To assess the effects of membrane stretch on the bone resorption activity of osteoclasts, we investigated actin ring formation, the intracellular structure responsible for bone resorption in osteoclasts. Hypotonic stimulation acutely disrupted actin ring formation in an extracellular Ca(2+)-dependent manner, and this disruption was prevented by Gd(3+). Moreover, Ca(2+) ionophore (ionomycin) also induced disruption of the actin rings. These results indicate that mechanical stress inhibits osteoclastic bone resorption activity, possibly via the elevation of [Ca(2+)](i) through stretch-activated, non-selective cation channels.
AB . . . was measured by fura-2 microspectrofluorimetry. Exposure to hypotonic solution (211-151 mOsm) caused cell swelling and reversibly increased [Ca(2+)](i) in the **osteoclasts**. This [Ca(2+)](i) increase was abolished by the omission of extracellular Ca(2+), but was not affected by the depletion of intracellular Ca(2+) stores. Gd(3+) and **La**(3+) inhibited the swelling-induced [Ca(2+)](i) increase, while nifedipine and Bay K 8644 did not. Neither protein kinase A inhibitors (Rp-cAMP, H-89). . .

L22 ANSWER 18 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1999:310083 BIOSIS
DN PREV199900310083
TI Appraisal of different electrothermal atomic absorption spectrometric methods for the determination of strontium in biological samples.
AU Burguera, Marcela (1); Burguera, Jose Luis; Rondon, Carlos; di Bernardo,

Maria Luisa; Gallignani, Maximo; Nieto, Edgar; Salinas, Jose
CS (1) IVAIQUIM (Venezuelan Andean Institute for Chemical Research), Faculty of Sciences (Metabolic Bone Research Group), Los Andes University, Merida, 5101-A Venezuela
SO Spectrochimica Acta Part B Atomic Spectroscopy, (May 10, 1999) Vol. 54, No. 5, pp. 805-818.
ISSN: 0584-8547.
DT Article
LA English
SL English
AB A comparative study of various potential chemical modifiers (La, Mg, Ni, Ta, Lu, Sm, Eu, Ho, Er, Tm and Tb) as well as of different background correction procedures (deuterium and Zeeman effect) and atomization techniques (wall and platform) for the direct determination of strontium in biological samples was carried out. Two instruments, one with deuterium and the other with Zeeman effect background corrections have been used to perform the experiments. Although La, Mg, Pd, Ta and Lu had a positive effect, **lanthanum** alone provided the best performance for the determination of strontium in whole blood, urine and **bone** digests using wall atomization without deuterium background correction. However, neither chemical modifier produced any significant improvement in sensitivity when Zeeman effect background correction with integrated platform atomization was used. Under the optimized conditions, the characteristic masses were 0.82 and 2.20 pg and the detection limits (3sigma) were 0.13 and 0.30mugl-1 with wall atomization and with Zeeman effect background correction respectively. Recovery studies and analysis of standard reference materials certified for strontium were performed to assess the accuracy. The results for the determination of strontium in real samples with wall atomization and lanthanum as chemical modifier, agreed well with those obtained with Zeeman effect background corrector with a precision typically between 0.5 and 3%. Both procedures can be recommended, and the choice will depend on instrument availability.
AB. . . background corrections have been used to perform the experiments. Although La, Mg, Pd, Ta and Lu had a positive effect, **lanthanum** alone provided the best performance for the determination of strontium in whole blood, urine and **bone** digests using wall atomization without deuterium background correction. However, neither chemical modifier produced any significant improvement in sensitivity when Zeeman. . .

L22 ANSWER 19 OF 73 MEDLINE
AN 2000099280 MEDLINE
DN 20099280 PubMed ID: 10633463
TI Phosphate binders on iron basis: a new perspective?.
AU Hergesell O; Ritz E
CS Department of Internal Medicine, Ruperto Carola University, Heidelberg, Germany (FRG).
SO KIDNEY INTERNATIONAL. SUPPLEMENT, (1999 Dec) 73 S42-5. Ref: 31
Journal code: 7508622. ISSN: 0098-6577.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 200001
ED Entered STN: 20000209
Last Updated on STN: 20000309
Entered Medline: 20000128
AB Uremic patients on maintenance hemodialysis are in positive phosphate balance. This is mainly the result of the complex elimination kinetics of phosphate during dialysis. Removal of phosphate is less than net dietary intake. Classical phosphate binders such as calcium carbonate, calcium acetate, and aluminum-based compounds are limited by side effects

(hypercalcemia) and outright toxicity (aluminium). There have been numerous recent attempts to develop alternative phosphate binders, e.g., polyallylamine-hydrochloride (Renagel), **lanthanum carbonate**, and trivalent iron-containing compounds. The latter is based on old observations that iron salts may cause hyperphosphatemia and **rickets** in experimental animals and in patients. This idea has recently been taken up again, and effective inhibition of net intestinal phosphate uptake in non-uremic and uremic rats has been shown using simple iron salts (citrate, chloride, ammonium citrate) and complex compounds (cross-linked dextran and stabilized polynuclear iron hydroxide). In uremic rats, the latter compound reduces urinary phosphate excretion as an indicator of reduced intestinal phosphate uptake and has also been shown to be effective in subjects with preterminal renal failure. So far, no side effects or short-term toxicity has been observed. The compound appears promising and deserves further evaluation.

AB . . . effects (hypercalcemia) and outright toxicity (aluminium). There have been numerous recent attempts to develop alternative phosphate binders, e.g., polyallylamine-hydrochloride (Renagel), **lanthanum carbonate**, and trivalent iron-containing compounds. The latter is based on old observations that iron salts may cause hyperphosphatemia and **rickets** in experimental animals and in patients. This idea has recently been taken up again, and effective inhibition of net intestinal. . .

L22 ANSWER 20 OF 73 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 2000009024 EMBASE
TI Phosphate binders on iron basis: A new perspective?.
AU Hergesell O.; Ritz E.
CS Prof. E. Ritz, Department of Internal Medicine, University of Heidelberg, Bergheimer Strasse 56a, D-69115 Heidelberg, Germany
SO Kidney International, Supplement, (1999) 56/73 (S42-S45).
Refs: 31
ISSN: 0098-6577 CODEN: KISUDF
CY United States
DT Journal; Article
FS 028 Urology and Nephrology
030 Pharmacology
037 Drug Literature Index
038 Adverse Reactions Titles
LA English
SL English
AB Uremic patients on maintenance hemodialysis are in positive phosphate balance. This is mainly the result of the complex elimination kinetics of phosphate during dialysis. Removal of phosphate is less than net dietary intake. Classical phosphate binders such as calcium carbonate, calcium acetate, and aluminum-based compounds are limited by side effects (hypercalcemia) and outright toxicity (aluminium). There have been numerous recent attempts to develop alternative phosphate binders, e.g., polyallylamine-hydrochloride (Renagel), **lanthanum carbonate**, and trivalent iron-containing compounds. The latter is based on old observations that iron salts may cause hyperphosphatemia and **rickets** in experimental animals and in patients. This idea has recently been taken up again, and effective inhibition of net intestinal phosphate uptake in non-uremic and uremic rats has been shown using simple iron salts (citrate, chloride, ammonium citrate) and complex compounds (cross-linked dextran and stabilized polynuclear iron hydroxide). In uremic rats, the latter compound reduces urinary phosphate excretion as an indicator of reduced intestinal phosphate uptake and has also been shown to be effective in subjects with preterminal renal failure. So far, no side effects or short-term toxicity has been observed. The compound appears promising and deserves further evaluation.

AB . . . effects (hypercalcemia) and outright toxicity (aluminium). There have been numerous recent attempts to develop alternative phosphate binders, e.g., polyallylamine-hydrochloride (Renagel), **lanthanum**

carbonate, and trivalent iron-containing compounds. The latter is based on old observations that iron salts may cause hyperphosphatemia and **rickets** in experimental animals and in patients. This idea has recently been taken up again, and effective inhibition of net intestinal. . .

L22 ANSWER 21 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2000:80603 BIOSIS
DN PREV200000080603
TI Phosphate binders on iron basis: A new perspective.
AU Hergesell, Olaf; Ritz, Eberhard (1)
CS (1) Department of Internal Medicine, University of Heidelberg, Bergheimer Strasse 56a, D-69115, Heidelberg Germany
SO Kidney International Supplement, (Dec., 1999) Vol. 0, No. 73, pp. S.42-S.45.
ISSN: 0098-6577.
DT Article
LA English
SL English
AB Uremic patients on maintenance hemodialysis are in positive phosphate balance. This is mainly the result of the complex elimination kinetics of phosphate during dialysis. Removal of phosphate is less than net dietary intake. Classical phosphate binders such as calcium carbonate, calcium acetate, and aluminum-based compounds are limited by side effects (hypercalcemia) and outright toxicity (aluminium). There have been numerous recent attempts to develop alternative phosphate binders, e.g., polyallylamine-hydrochloride (Renagel), **lanthanum carbonate**, and trivalent iron-containing compounds. The latter is based on old observations that iron salts may cause hyperphosphatemia and **rickets** in experimental animals and in patients. This idea has recently been taken up again, and effective inhibition of net intestinal phosphate uptake in non-uremic and uremic rats has been shown using simple iron salts (citrate, chloride, ammonium citrate) and complex compounds (cross-linked dextran and stabilized polynuclear iron hydroxide). In uremic rats, the latter compound reduces urinary phosphate excretion as an indicator of reduced intestinal phosphate uptake and has also been shown to be effective in subjects with preterminal renal failure. So far, no side effects or short-term toxicity has been observed. The compound appears promising and deserves further evaluation.
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L22 ANSWER 22 OF 73 DRUGU COPYRIGHT 2003 THOMSON DERWENT
AN 1998-34331 DRUGU T S E
TI Final height after combined growth hormone and gonadotropin-releasing hormone analogue therapy in short healthy children entering into normally timed puberty.
AU Lanes R; Gunczler P
LO Caracas, Venez.
SO Clin.Endocrinol. (49, No. 2, 197-202, 1998) 2 Fig. 2 Tab. 29 Ref.
CODEN: CLECAP ISSN: 0300-0664
AV M-209, PO Box 020020, Miami, Florida 33102, U.S.A.
LA English
DT Journal
FA AB; LA; CT
FS Literature
AB 10 Healthy, adolescent short children entering normally timed puberty were treated simultaneously for a mean of 30 mth with i.m. leuprolide

acetate (LA) every 28 days and with s.c. recombinant human GH (rhGH) 6 days a wk. 10 Healthy short children in the early stages of puberty who were not treated served as controls. Combined treatment resulted in an interruption of pubertal development with a suppression of gonadal steroids and of the LH response to LHRH. The combined treatment did not contribute to increase in final height above pretreatment predicted adult height and is therefore not recommended as treatment for this group of patients.

ABEX Methods 10 Short children (3 boys; mean chronological age 11.8 yr and mean **bone** age 11.2 yr) were given s.c. rhGH (0.1 U/kg/day) at bedtime 6 days per wk plus i.m. **LA** (0.3 mg/kg) every 28 days. Patients were treated for 30.0 mth. Controls were 10 healthy, short children (3 male; mean chronological age 11.4 yr and mean **bone** age 11.0 yr) in early puberty who received no treatment. Results Combined treatment resulted in an interruption of pubertal development. . .

L22 ANSWER 23 OF 73 MEDLINE DUPLICATE 6
AN 1998299862 MEDLINE
DN 98299862 PubMed ID: 9634609
TI Ultrastructural and **lanthanum** tracer examination of rapidly resorbing rat alveolar **bone** suggests that **osteoclasts** internalize dying **bone** cells.
AU Taniwaki N N; Katchburian E
CS Department of Morphology, School of Medicine, Federal University of Sao Paulo, Rua Botucatu, 740, 04023-900 Sao Paulo, Brazil.
SO CELL AND TISSUE RESEARCH, (1998 Jul) 293 (1) 173-6.
Journal code: 0417625. ISSN: 0302-766X.
CY GERMANY: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199807
ED Entered STN: 19980817
Last Updated on STN: 19980817
Entered Medline: 19980731
AB Glutaraldehyde-formaldehyde fixed undecalcified alveolar **bone** from 7-day-old rats was prepared for light and electron microscopy. Colloidal **lanthanum** was used as an ultrastructural tracer, and both random and semi-serial sections were examined. **Lanthanum** penetrated the infoldings of the ruffled border and some nearby vacuoles and vesicles. The majority of vacuoles and vesicles were **lanthanum** -free. Some **osteoclast** profiles contained a large vacuole with a cell enclosed in its interior. The enclosed cell exhibited an irregular nucleus containing condensed peripheral chromatin, intact cytoplasmic organelles, conspicuous rough endoplasmic reticulum and large blebs on the cell surface. These features are characteristic of osteoblasts or bone-lining cells or immature osteocytes which may be undergoing apoptosis or necrosis. The observation of remnants of cellular structures within internalized osteoclast vacuoles, together with the above results, suggests that osteoclasts engulf and probably degrade dying osteoblasts/bone-lining cells or immature osteocytes.
TI Ultrastructural and **lanthanum** tracer examination of rapidly resorbing rat alveolar **bone** suggests that **osteoclasts** internalize dying **bone** cells.
AB Glutaraldehyde-formaldehyde fixed undecalcified alveolar **bone** from 7-day-old rats was prepared for light and electron microscopy. Colloidal **lanthanum** was used as an ultrastructural tracer, and both random and semi-serial sections were examined. **Lanthanum** penetrated the infoldings of the ruffled border and some nearby vacuoles and vesicles. The majority of vacuoles and vesicles were **lanthanum** -free. Some **osteoclast** profiles contained a large vacuole with a cell enclosed in its interior. The enclosed cell exhibited an irregular nucleus containing. . .

L22 ANSWER 24 OF 73 MEDLINE DUPLICATE 7
AN 97396768 MEDLINE
DN 97396768 PubMed ID: 9252932
TI Nafarelin vs. leuprolide acetate depot for endometriosis. Changes in bone mineral density and vasomotor symptoms. Nafarelin Study Group.
AU Agarwal S K; Hamrang C; Henzl M R; Judd H L
CS Department of Obstetrics and Gynecology, Cedara-Sinai Medical Center, Los Angeles, CA 90048, USA.
SO JOURNAL OF REPRODUCTIVE MEDICINE, (1997 Jul) 42 (7) 413-23.
Journal code: 0173343. ISSN: 0024-7758.
CY United States
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LA English
FS Priority Journals
EM 199709
ED Entered STN: 19971008
Last Updated on STN: 19971008
Entered Medline: 19970923
AB OBJECTIVE: To compare intranasal nafarelin and intramuscular leuprolide acetate (LA) depot in the management of endometriosis. STUDY DESIGN: A multicenter, prospective, randomized, double-placebo, double-blind study was conducted on subjects who had symptoms and signs of endometriosis and **bone** mineral density (BMD) within the age-appropriate normal range. For 6 months, 99 subjects received nafarelin, 200 micrograms twice daily, and placebo injections once monthly; 93 subjects received **LA** depot injections, **3**.75 mg once monthly, and placebo nasal spray, twice daily. Subjects were followed throughout treatment and for six months after treatment. The main outcome measures were changes in endometriosis symptoms and signs, BMD measurements, subject-reported and objectively measured hot flushes and circulating estradiol concentrations. RESULTS: Nafarelin was as effective as LA depot in alleviating symptoms and signs of endometriosis. LA depot recipients lost significantly more BMD, had more days with subjective hot flushes and more objectively measured hot flushes than did nafarelin recipients. In the nafarelin group, estradiol levels were consistently higher than in the leuprolide depot group, with significant differences by month 3 of dosing. CONCLUSION: Nafarelin and LA depot were equally effective despite higher estradiol levels in nafarelin recipients. Nafarelin-treated subjects lost less BMD, had fewer days with hot flushes and had fewer objectively measured hot flushes.
AB . . . DESIGN: A multicenter, prospective, randomized, double-placebo, double-blind study was conducted on subjects who had symptoms and signs of endometriosis and **bone** mineral density (BMD) within the age-appropriate normal range. For 6 months, 99 subjects received nafarelin, 200 micrograms twice daily, and placebo injections once monthly; 93 subjects received **LA** depot injections, **3** .75 mg once monthly, and placebo nasal spray, twice daily. Subjects were followed throughout treatment and for six months after treatment.. . .

L22 ANSWER 25 OF 73 MEDLINE DUPLICATE 8
AN 97459894 MEDLINE
DN 97459894 PubMed ID: 9312198
TI Variable conformation of GAP junctions linking bone cells: a transmission electron microscopic study of linear, stacked linear, curvilinear, oval, and annular junctions.
AU Shapiro F
CS Laboratory for the Study of Skeletal Disorders, Department of Orthopaedic Surgery, Children's Hospital, Enders 11, 300 Longwood Avenue, Boston, Massachusetts 02115, USA.
SO CALCIFIED TISSUE INTERNATIONAL, (1997 Oct) 61 (4) 285-93.
Journal code: 7905481. ISSN: 0171-967X.

CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199801
ED Entered STN: 19980206
Last Updated on STN: 19980206
Entered Medline: 19980129
AB There is a marked variability in the conformation of bone cell gap junctions in newborn murine cortical bone as defined by transmission electron microscopy (TEM). Studies were done in newborn BALB/c mouse and Sprague-Dawley rat femurs and tibias. Femoral and tibial cortices were dissected into 1 mm3 fragments and prepared in standardized fashion using modified Karnovsky fixation, 7.5% EDTA decalcification, 1% osmium tetroxide-sym collidine buffer with 1% **lanthanum** nitrate postfixation, Epon resin, 60 nm sections, lead citrate/uranyl acetate staining, and examination at 60 kV. Previous TEM descriptions of **bone** junctions have, with rare exceptions, noted only isolated linear or mildly curvilinear structures. In this study we noted gap junctional shapes on thin-section TEM preparations of osteoblasts and osteocytes to be extremely variable and complex encompassing linear, curvilinear, stacked linear, oval, and annular conformations. Multiple observations revealed linear gap junctions linking surface osteoblast cell bodies; linear, curvilinear, stacked linear, and oval junctions linking osteoblast processes in osteoid; linear and curvilinear junctions where cell processes joined with osteocyte cell bodies and each of the five conformations linking osteocyte processes within canaliculi. The annular junctions were found within osteoblast and osteocyte cytoplasm and in osteocyte cell processes within canaliculi. The annular junctions are intracellular, degenerating structures which appear as ultrastructural markers of gap junction involution. The more complex shapes reported here must be considered in (1) interpreting quantitative studies using freeze-fracture replicas, thin sections, and confocal microscopy immunolabeled junction connexin-43 components and (2) assessing gap junction biogenesis and turnover. 3-D reconstruction of bone junctions will enhance our understanding of these complex conformations.
AB . . . fragments and prepared in standardized fashion using modified Karnovsky fixation, 7.5% EDTA decalcification, 1% osmium tetroxide-sym collidine buffer with 1% **lanthanum** nitrate postfixation, Epon resin, 60 nm sections, lead citrate/uranyl acetate staining, and examination at 60 kV. Previous TEM descriptions of **bone** junctions have, with rare exceptions, noted only isolated linear or mildly curvilinear structures. In this study we noted gap junctional. . .

L22 ANSWER 26 OF 73 MEDLINE DUPLICATE 9
AN 97006922 MEDLINE
DN 97006922 PubMed ID: 8854197
TI Ytterbium- and dysprosium-EOB-DTPA. A new prototype of liver-specific contrast agents for computed tomography.
AU Krause W; Schuhmann-Giampieri G; Bauer M; Press W R; Muschick P
CS Research Laboratories, Schering AG, Berlin, Germany.
SO INVESTIGATIVE RADIOLOGY, (1996 Aug) 31 (8) 502-11.
Journal code: 0045377. ISSN: 0020-9996.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199612
ED Entered STN: 19970128
Last Updated on STN: 19990129
Entered Medline: 19961224
AB RATIONALE AND OBJECTIVES: A series of studies was conducted to determine whether metal complexes of the EOB-DTPA type are useful as contrast agents for computed tomography (CT). METHODS: Metal complexes using EOB-DTPA as

ligand were synthesized with lanthanide metal ions (**lanthanum** [La], cerium [Ce], praseodyme [Pr], gadolinium [Gd], dysprosium [Dy], ytterbium [Yb], and lutetium [Lu]) and with nonlanthanides (lead [Pb] and bismuth [Bi]). Complex stability was assessed by measuring binding to **bone** meal. The physicochemical parameters partition coefficient, osmolality, viscosity, and protein binding were determined in vitro. Tolerability was tested both in vitro (thromboplastin time, effect on erythrocytes) and in vivo (acute, neural, and cardiovascular toxicities). Biliary excretion and tissue distribution, especially liver, kidney, and bone concentrations, were measured in rats after intravenous doses of 0.5 mmol/kg. Imaging performance using CT was investigated in vitro in a phantom model and, for Gd-EOB-DTPA, in vivo by injecting doses of 0.5 mmol/kg into healthy or tumor-bearing rats and rabbits. RESULTS: The kinetic stability of M-EOB-DTPA complexes differed widely. Nonlanthanide metals, especially Pb-EOB-DTPA, provided less stable complexes than lanthanides with an optimum of stability for the metals Gd, Dy, Yb, and Lu. Tolerability was good for all compounds, best results were obtained for Gd and Yb. Concentrations in rat liver after administration of Gd-EOB-DTPA, 0.5 mmol/kg intravenous, were approximately 1 mumol/g, resulting in CT enhancement of 16 Hounsfield units (HU). Tumor tissue was not enhanced. In rabbits, at the same dose level 30 HU was found. CONCLUSIONS: Metal complexes of the EOB-DTPA type, especially those of Gd and Yb seem to be useful as iodine-free liver-specific contrast agents for CT.

AB . . . as contrast agents for computed tomography (CT). METHODS: Metal complexes using EOB-DTPA as ligand were synthesized with lanthanide metal ions (**lanthanum** [La], cerium [Ce], praseodyme [Pr], gadolinium [Gd], dysprosium [Dy], ytterbium [Yb], and lutetium [Lu]) and with nonlanthanides (lead [Pb] and bismuth [Bi]). Complex stability was assessed by measuring binding to **bone** meal. The physicochemical parameters partition coefficient, osmolality, viscosity, and protein binding were determined in vitro. Tolerability was tested both in. . .

L22 ANSWER 27 OF 73 MEDLINE
AN 95269816 MEDLINE
DN 95269816 PubMed ID: 7750585
TI Depot leuprolide acetate versus danazol for treatment of pelvic endometriosis: changes in vertebral bone mass and serum estradiol and calcitonin.
AU Dawood M Y; Ramos J; Khan-Dawood F S
CS Department of Obstetrics, Gynecology and Reproductive Sciences, University of Texas Medical School at Houston 77030, USA.
SO FERTILITY AND STERILITY, (1995 Jun) 63 (6) 1177-83.
Journal code: 0372772. ISSN: 0015-0282.
CY United States
DT (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LA English
FS Priority Journals
EM 199506
ED Entered STN: 19950629
Last Updated on STN: 19950629
Entered Medline: 19950620
AB OBJECTIVE: To determine changes in trabecular vertebral bone mass, serum E2, and serum calcitonin during and after therapy of pelvic endometriosis with depot leuprolide acetate (LA) or danazol. DESIGN: Prospective, randomized, double-blind study. SETTING: Academic university hospital and department of obstetrics and gynecology. PATIENTS: Twelve women with symptomatic pelvic endometriosis diagnosed and staged by laparoscopy. INTERVENTIONS: All patients received blinded treatment with either 3.75 mg JM depot LA given every month and daily placebo tablets (n = 6) or 800 mg oral danazol daily with a monthly placebo injection (n = 6) for 24 weeks. MAIN OUTCOME MEASURES: Quantitated computerized tomography of bone density

of thoracic 12 to lumbar 4 vertebral bodies were determined before, at the end of 24 weeks of treatment, and 6 and 12 months after completing treatment. Gain or loss of bone mass was based against pretreatment levels. Serial serum levels of E2 and calcitonin before, throughout, and after therapy were compared with changes in bone mass. RESULTS: Bone loss with LA was 14.0% +/- 0.5% (mean +/- SEM), recovering to a deficit of 4.2% +/- 3.8% and 3.3%, 6 and 12 months after stopping therapy. Danazol increased bone by 5.4% +/- 2.2%, with a further gain to 8.2% +/- 3.5% and 7.5%, 6 and 12 months after stopping treatment. Serum E2 levels usually were < 25 pg/mL (conversion factor to SI unit, 3.671) with **LA** but > 47.3 pg/mL with danazol. Calcitonin levels did not change significantly with either treatment. CONCLUSION: Depot LA produced marked sustained hypoestrogenemia and significant **bone** loss with incomplete recovery 1 year after stopping treatment. Danazol maintained normoestrogenemia and increased bone mass with the gain maintained even 1 year after stopping therapy.

AB . . . 12 months after stopping treatment. Serum E2 levels usually were < 25 pg/mL (conversion factor to SI unit, 3.671) with **LA** but > 47.3 pg/mL with danazol. Calcitonin levels did not change significantly with either treatment. CONCLUSION: Depot LA produced marked sustained hypoestrogenemia and significant **bone** loss with incomplete recovery 1 year after stopping treatment. Danazol maintained normoestrogenemia and increased bone mass with the gain maintained. . .

L22 ANSWER 28 OF 73 MEDLINE DUPLICATE 10
AN 96108266 MEDLINE
DN 96108266 PubMed ID: 8680806
TI A possible non-aluminum oral phosphate binder? A comparative study on dietary phosphorus absorption.
AU Graff L; Burnel D
CS Laboratoire de Chimie Generale Appliquee a la Medecine, Faculte de Medecine, Universite Henri Poincare, Nancy I, Vandoeuvre les Nancy, France.
SO RESEARCH COMMUNICATIONS IN MOLECULAR PATHOLOGY AND PHARMACOLOGY, (1995 Sep) 89 (3) 373-88.
Journal code: 9437512. ISSN: 1078-0297.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199608
ED Entered STN: 19960828
Last Updated on STN: 19970203
Entered Medline: 19960820
AB The aim of this study was to highlight a possible new non-aluminum phosphate-binder to limit hyperphosphatemia in patients with renal failure. Lanthanum chloride hydrate was evaluated as a dietary phosphate binder in rats. Aluminum chloride hexahydrate was evaluated as a reference. Animals were divided in five groups (6 animals per group): 1 control group (C), 2 aluminum groups (Al1 and Al2), receiving different doses of aluminum chloride hexahydrate and 2 lanthanum groups (La1 and La2), receiving different doses of lanthanum chloride hydrate. During the treatment, urine and stools were collected. At the end of the treatment animals were sacrificed and plasma and different organs were collected (liver, spleen, kidneys, brain and femur). To highlight the possible transfer of lanthanum in rat tissues, a long-term (100 days) study was carried with a high dose. At the end of the treatment, lanthanum determinations were carried out on several tissues (liver, spleen, kidneys, brain, femur and lungs). Determinations of phosphorus and calcium levels in plasma indicated that **lanthanum chloride** hydrate showed as good results as aluminum chloride hexahydrate. **Lanthanum chloride** hydrate significantly ($p < 0.01$) reduced the **bone** phosphorus burden. Decreases of urinary excretion and increases in fecal excretion of phosphorus indicated a

severe phosphorus depletion in all treatments (Al and La). Unfortunately, in the long-term study, **lanthanum** traces could only be determined in the different tissues but not in plasma. However, in comparison with the equivalent aluminum treatment, the transfer of lanthanum was less important than aluminum transfer. Consequently, lanthanum could provide a possible alternative to aluminum.

AB . . . on several tissues (liver, spleen, kidneys, brain, femur and lungs). Determinations of phosphorus and calcium levels in plasma indicated that **lanthanum chloride** hydrate showed as good results as aluminum chloride hexahydrate. **Lanthanum chloride** hydrate significantly ($p < 0.01$) reduced the **bone** phosphorus burden. Decreases of urinary excretion and increases in fecal excretion of phosphorus indicated a severe phosphorus depletion in all treatments (Al and La). Unfortunately, in the long-term study, **lanthanum** traces could only be determined in the different tissues but not in plasma. However, in comparison with the equivalent aluminum. . .

L22 ANSWER 29 OF 73 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 95119754 EMBASE
DN 1995119754
TI Pretreatment of titanium implants with **lanthanum** ions alters the **bone** reaction.
AU Ellingsen J.E.; Pinholt E.M.
CS Dept Prosthetic Dentistry, And Stomatognatic Physiology, University of Oslo, Dental Faculty, PO Box 1109 Blindern,0317 Oslo, Norway
SO Journal of Materials Science: Materials in Medicine, (1995) 6/3 (125-129). ISSN: 0957-4530 CODEN: JSMMEL
CY United Kingdom
DT Journal; Article
FS 027 Biophysics, Bioengineering and Medical Instrumentation
LA English
SL English
AB The experiment was designed to study the effect of chemical modification of titanium surfaces on the response from body fluids and tissues after implantation. By treatment of titanium dioxide and titanium with lanthanum ions, which have high affinity for calcium binding sites, an increased protein adsorption was observed. The in vivo effect was also studied both on rats and rabbits, with an inhibition of osseointegration as a result. The observations in the present study indicated that it is possible to change the healing response of titanium by chemically changing its surface properties.
TI Pretreatment of titanium implants with **lanthanum** ions alters the **bone** reaction.

L22 ANSWER 30 OF 73 MEDLINE
AN 96273833 MEDLINE
DN 96273833 PubMed ID: 8666298
TI [The effect of soil extracts with different heavy metal levels on the viability of isolated blood system cells].
Vliianie ekstraktov pochv s razlichnym soderzhaniem tiazhelykh metallov na zhiznesposobnost' izolirovannykh kletok sistemy krovi.
AU Chukhlovin A B; Iagunov A S; Tokalov S V; Reshchikov A M; Zharskaia V D
SO GIGIENA I SANITARIIA, (1995 Nov-Dec) (6) 11-3.
Journal code: 0412700. ISSN: 0016-9900.
CY RUSSIA: Russian Federation
DT Journal; Article; (JOURNAL ARTICLE)
LA Russian
FS Priority Journals
EM 199608
ED Entered STN: 19960819
Last Updated on STN: 19960819
Entered Medline: 19960806
AB Short-term incubation of rat thymocytes, **bone** marrow cells, and

macrophages with aqueous extracts of soil demonstrated positive correlations between damage to the cells and increased levels of copper, chromium, and manganese in the soil, while increased levels of zinc and **lanthanum** were associated with less pronounced changes in the cells.

AB Short-term incubation of rat thymocytes, **bone** marrow cells, and macrophages with aqueous extracts of soil demonstrated positive correlations between damage to the cells and increased levels of copper, chromium, and manganese in the soil, while increased levels of zinc and **lanthanum** were associated with less pronounced changes in the cells.

L22 ANSWER 31 OF 73 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 11
AN 94119929 EMBASE
DN 1994119929
TI Metabolism of calcium and phosphorus in rats after continuous oral administration of lanthanum.
AU Hanioka N.; Jinno H.; Sekita H.; Toyo'oka T.; Ando M.; Kojima S.; Takeda M.
CS Division of Environmental Chemistry, Natl. Institute of Hygienic Sciences, 1-18-1 Kamiyoga,Setagaya-ku, Tokyo 158, Japan
SO Japanese Journal of Toxicology and Environmental Health, (1994) 40/1 (26-33).
ISSN: 0013-273X CODEN: JJTHEC
CY Japan
DT Journal; Article
FS 029 Clinical Biochemistry
046 Environmental Health and Pollution Control
052 Toxicology
LA English
SL English
AB In the present study, we examined the effects of a rare earth element, **lanthanum** (La) on the excretion into the urine and feces as well as the distribution of calcium (45Ca) and phosphorus (32P) in the liver, pancreas, spleen, kidney, lung, heart, thymus, brain, **bone** and blood of male rats. The experiments were performed using 5 rats in each group. **Lanthanum chloride** (**LaCl3**) was administered orally at a dose of 100 mg/rat/d as La for 5 weeks (La-A group). 45Ca and 32P were administered orally or intravenously once, and following the administration, the urine and feces were collected daily for 8 consecutive days. As a result, the amount of oral 45Ca and 32P excreted into the feces in the La-A group increased remarkably compared with that of the control group (41 .fwdarw. 91% and 26 .fwdarw. 99%, respectively), whereas 45Ca and 32P excreted into the urine in the La-A group was reduced (9.5 .fwdarw. 0.2% and 28 .fwdarw. 0.3%, respectively). However, the excretion patterns in the urine and feces and the distribution of 45Ca and 32P in the body of rats given La, were similar to those of the control rats after the stop of the La administration (La-B group). The levels of 45Ca and 32P in the body for 8 d after their administration was highest in the control group, followed by the La-B group, and lowest in the La- A group. Moreover, in the La-A group, the levels of 45Ca and 32P in each organ decreased by 1/2 to 1/75 compared with those in the control rats, but there was no significant difference between the control group and the La-B group. However, the excretion patterns in the urine and feces and the distribution of 45Ca and 32P in the La-A group was similar to those of the control group when 45Ca and 32P were administered intravenously. These results suggest that La inhibits the uptake of 45Ca and 32P temporarily, and that the action is reversible.

AB In the present study, we examined the effects of a rare earth element, **lanthanum** (La) on the excretion into the urine and feces as well as the distribution of calcium (45Ca) and phosphorus (32P) in the liver, pancreas, spleen, kidney, lung, heart, thymus, brain, **bone** and blood of male rats. The experiments were performed using 5 rats in each group. **Lanthanum chloride** (**LaCl3**) was

administered orally at a dose of 100 mg/rat/d as La for 5 weeks (La-A group). 45Ca and 32P were. . .

L22 ANSWER 32 OF 73 MEDLINE DUPLICATE 12
AN 92412141 MEDLINE
DN 92412141 PubMed ID: 1530645
TI Activation and inactivation of the **osteoclast** Ca2+ receptor by the trivalent cation, **La3+**.
AU Shankar V S; Alam A S; Bax C M; Bax B E; Pazianas M; Huang C L; Zaidi M
CS Bone and Mineral Metabolism Unit, St. George's Hospital Medical School, London.
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1992 Sep 16) 187 (2) 907-12.
Journal code: 0372516. ISSN: 0006-291X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199210
ED Entered STN: 19921106
Last Updated on STN: 19970203
Entered Medline: 19921022
AB We report changes in the cytosolic Ca2+ concentration ([Ca2+]i) of single rat **osteoclasts** in response to Ca2+ receptor activation by micromolar concentrations of the lanthanide metal cation, **La3+**. The extracellular application of **La3+** induced a concentration-dependent elevation of cytosolic [Ca2+]. Prior conditioning of **osteoclasts** with **La3+** resulted in a concentration-dependent reduction of the response to a subsequent application of a maximally effective concentration of Ni2+, a known agonist of the **osteoclast** Ca2+ receptor. The results establish that the **osteoclast** Ca2+ receptor is highly sensitive to activation and inactivation by the trivalent cation, **La3+**.
TI Activation and inactivation of the **osteoclast** Ca2+ receptor by the trivalent cation, **La3+**.
AB We report changes in the cytosolic Ca2+ concentration ([Ca2+]i) of single rat **osteoclasts** in response to Ca2+ receptor activation by micromolar concentrations of the lanthanide metal cation, **La3+**. The extracellular application of **La3+** induced a concentration-dependent elevation of cytosolic [Ca2+]. Prior conditioning of **osteoclasts** with **La3+** resulted in a concentration-dependent reduction of the response to a subsequent application of a maximally effective concentration of Ni2+, a known agonist of the **osteoclast** Ca2+ receptor. The results establish that the **osteoclast** Ca2+ receptor is highly sensitive to activation and inactivation by the trivalent cation, **La3+**.

L22 ANSWER 33 OF 73 MEDLINE DUPLICATE 13
AN 93203030 MEDLINE
DN 93203030 PubMed ID: 1295872
TI **Lanthanum** tracer and freeze-fracture studies suggest that compartmentalisation of early **bone** matrix may be related to initial mineralisation.
AU Soares A M; Arana-Chavez V E; Reid A R; Katchburian E
CS Department of Histology and Embryology, University of Sao Paulo, Brazil.
SO JOURNAL OF ANATOMY, (1992 Oct) 181 (Pt 2) 345-56.
Journal code: 0137162. ISSN: 0021-8782.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Space Life Sciences
EM 199304
ED Entered STN: 19930507
Last Updated on STN: 19930507

Entered Medline: 19930422

AB In adult bone the calcified matrix and enclosed osteocytes are separated from the extracellular space by a continuous layer of bone lining cells. It thus appears that bone matrix is compartmentalised and, as such, may constitute a 'milieu interieur' which is different from the general extracellular space. Since adult bone matrix is compartmentalised and matrix vesicles also form a microcompartment, it is conceivable that compartmentalisation, in early osteogenesis, may be a requirement for the initial events of the mineralisation process. We have therefore conducted an ultrastructural, tracer, and freeze-fracture study to determine the stage in which **bone** matrix becomes compartmentalised and also to find out whether there are tight junctions between **osteoblasts**. The results show that in early nonmineralised stages and in incipient mineralisation, **lanthanum** penetrates all intercellular spaces and the newly forming **bone** matrix which is rich in matrix vesicles and collagen. With the progression of mineralisation, when all matrix vesicles appear mineralised and calcification is 'spreading' to the surrounding matrix, **lanthanum** is restricted to intercellular spaces and conspicuous macular tight junctions are present between **osteoblasts**. We suggest that matrix vesicles act as microcompartments for calcification when the early **bone** matrix is in continuity with the surrounding extracellular space. In later stages, when **lanthanum** fails to penetrate the matrix, matrix vesicles may no longer be necessary because the **bone** matrix itself is compartmentalised, thus allowing for localised changes in composition that might favour mineral deposition.

TI **Lanthanum** tracer and freeze-fracture studies suggest that compartmentalisation of early **bone** matrix may be related to initial mineralisation.

AB . . . of the mineralisation process. We have therefore conducted an ultrastructural, tracer, and freeze-fracture study to determine the stage in which **bone** matrix becomes compartmentalised and also to find out whether there are tight junctions between **osteoblasts**. The results show that in early nonmineralised stages and in incipient mineralisation, **lanthanum** penetrates all intercellular spaces and the newly forming **bone** matrix which is rich in matrix vesicles and collagen. With the progression of mineralisation, when all matrix vesicles appear mineralised and calcification is 'spreading' to the surrounding matrix, **lanthanum** is restricted to intercellular spaces and conspicuous macular tight junctions are present between **osteoblasts**. We suggest that matrix vesicles act as microcompartments for calcification when the early **bone** matrix is in continuity with the surrounding extracellular space. In later stages, when **lanthanum** fails to penetrate the matrix, matrix vesicles may no longer be necessary because the **bone** matrix itself is compartmentalised, thus allowing for localised changes in composition that might favour mineral deposition.

L22 ANSWER 34 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1991:210606 BIOSIS
DN BA91:113831
TI THALLIUM DETERMINATION IN BIOLOGICAL MATERIALS BY RADIOCHEMICAL NEUTRON ACTIVATION ANALYSIS.
AU HENKE G
CS RADIOISOTOPE LAB., INST. PHARMACEUTICAL CHEM., HITTORFSTR. 58-62, W-4400 MUENSTER, FRG.
SO FRESENIUS' J ANAL CHEM, (1991) 339 (4), 245-248.
CODEN: FJACES. ISSN: 0937-0633.
FS BA; OLD
LA English
AB The determination of thallium in biological materials sometimes causes problems because of the low concentrations of this toxic element. In the present work a method is described which optimizes the parameters affecting the specificity and sensitivity of the radiochemical NAA of

thallium in biological samples. High thermal neutron flux, complete decomposition of the organic matter by pressurized digestion, TII precipitations, liquid extraction of HTlBr4 and **La**(OH)**3** scavenging purification are the steps leading to the final homogenous preparation of Tl2CrO4 for .beta.-activity measurement. The method was applied to various materials as bovine liver, **bone** and nails. Good agreement was found between certified and determined thallium concentrations of the reference material CRM 176. The chemical yield comes to about 80%, with low deviations. The sensitivity of the method is about 10-3 .mu.g/g, the standard deviations being in the range of 3.6% (CRM 176), 14% (bovine liver), and 17% (bone). Detailed working instructions are given.

AB. . . High thermal neutron flux, complete decomposition of the organic matter by pressurized digestion, TII precipitations, liquid extraction of HTlBr4 and **La**(OH)**3** scavenging purification are the steps leading to the final homogenous preparation of Tl2CrO4 for .beta.-activity measurement. The method was applied to various materials as bovine liver, **bone** and nails. Good agreement was found between certified and determined thallium concentrations of the reference material CRM 176. The chemical. . .

L22 ANSWER 35 OF 73 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 14
AN 91262627 EMBASE
DN 1991262627
TI Th, U, Ra and rare earth element distributions in farm animal tissues from an elevated natural radiation background environment.
AU Linsalata P.; Morse R.; Ford H.; Eisenbud M.; Franca E.P.; De Castro M.B.; Lobao N.; Sachett I.; Carlos M.
CS NY University Medical Center, Inst.of Environmental Medicine,Tuxedo, NY 10987, United States
SO Journal of Environmental Radioactivity, (1991) 14/3 (233-257). ISSN: 0265-931X CODEN: JERAEE
CY United Kingdom
DT Journal; Article
FS 014 Radiology
046 Environmental Health and Pollution Control
LA English
SL English
AB A field study was conducted in an area of elevated natural background radioactivity (the Pocos de Caldas plateau, Brazil) to assess tissue concentrations and the comparative bioavailability of isotopic Th (IV), U (IV, VI), Ra (II) and light rare earth elements (REE), i.e. **La** (**III**) and Ce (III, IV) in adult steers, pigs and chickens. Among animals, analyses are limited primarily to **bone** and muscle since they represent the major loci for deposition/retention and transport to man, respectively. The assessment of comparative bioavailability was aided by normalizing tissue concentrations to local soil concentrations, i.e. by calculating soil-to-tissue concentration ratios (CRs). Mean CRs (for muscle/soil) in these animals were very similar for U, La and Th which, as a group, decreased among the farm animals sampled as (all x 10-4): chicken (1) .gtoreq. steer (0.7) .gtoreq. pig (0.4). For 226Ra, CRs in muscle decreased in the same order among animals although mean values were 3-5 times greater than those quoted. Much greater values and greater differences among the elements are noted for bone/soil CRs, which for all animals decreased as: Ra > > U > La = Th, indicating the order of elemental bioavailability (assuming bone to be the major retention compartment). Isotopic ratios in farm animal tissue are shown to resemble closely those in soils over which the animals forage, with few exceptions, indicating the importance of the soil component in the transfer of these elements to tissues.

AB . . . and the comparative bioavailability of isotopic Th (IV), U (IV, VI), Ra (II) and light rare earth elements (REE), i.e. **La** (**III**) and Ce (III, IV) in adult steers, pigs and chickens. Among animals, analyses are limited primarily to **bone** and muscle since

they represent the major loci for deposition/retention and transport to man, respectively. The assessment of comparative bioavailability. . .

L22 ANSWER 36 OF 73 MEDLINE DUPLICATE 15
AN 91115947 MEDLINE
DN 91115947 PubMed ID: 1703539
TI Osteoclast cytosolic calcium, regulated by voltage-gated calcium channels and extracellular calcium, controls podosome assembly and bone resorption.
AU Miyauchi A; Hruska K A; Greenfield E M; Duncan R; Alvarez J; Barattolo R; Colucci S; Zambonin-Zallone A; Teitelbaum S L; Teti A
CS Department of Medicine, Jewish Hospital, Washington University Medical Center, St. Louis, Missouri 63110..
NC AM-32788 (NIADDK)
AR-32087 (NIAMS)
AR-39561 (NIAMS)
SO JOURNAL OF CELL BIOLOGY, (1990 Dec) 111 (6 Pt 1) 2543-52.
Journal code: 0375356. ISSN: 0021-9525.
(Investigators: Greenfield E M, Washington U, St Louis, MO)
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Space Life Sciences
EM 199103
ED Entered STN: 19910329
Last Updated on STN: 19970203
Entered Medline: 19910301
AB The mechanisms of Ca2+ entry and their effects on cell function were investigated in cultured chicken osteoclasts and putative osteoclasts produced by fusion of mononuclear cell precursors. Voltage-gated Ca2+ channels (VGCC) were detected by the effects of membrane depolarization with K+, BAY K 8644, and dihydropyridine antagonists. K+ produced dose-dependent increases of cytosolic calcium ([Ca2+]i) in osteoclasts on glass coverslips. Half-maximal effects were achieved at 70 mM K+. The effects of K+ were completely inhibited by dihydropyridine derivative Ca2+ channel blocking agents. BAY K 8644 (5 X 10(-6) M), a VGCC agonist, stimulated Ca2+ entry which was inhibited by nicardipine. VGCCs were inactivated by the attachment of osteoclasts to bone, indicating a rapid phenotypic change in Ca2+ entry mechanisms associated with adhesion of **osteoclasts** to their resorption substrate. Increasing extracellular Ca2+ ([Ca2+]e) induced Ca2+ release from intracellular stores and Ca2+ influx. The Ca2+ release was blocked by dantrolene (10(-5) M), and the influx by **La3**+. The effects of [Ca2+]e on [Ca2+]i suggests the presence of a Ca2+ receptor on the **osteoclast** cell membrane that could be coupled to mechanisms regulating cell function. Expression of the [Ca2+]e effect on [Ca2+]i was similar in the presence or absence of bone matrix substrate. Each of the mechanisms producing increases in [Ca2+]i, (membrane depolarization, BAY K 8644, and [Ca2+]e) reduced expression of the osteoclast-specific adhesion structure, the podosome. The decrease in podosome expression was mirrored by a 50% decrease in bone resorptive activity. Thus, stimulated increases of osteoclast [Ca2+]i lead to cytoskeletal changes affecting cell adhesion and decreasing bone resorptive activity.
AB . . . by the attachment of osteoclasts to bone, indicating a rapid phenotypic change in Ca2+ entry mechanisms associated with adhesion of **osteoclasts** to their resorption substrate. Increasing extracellular Ca2+ ([Ca2+]e) induced Ca2+ release from intracellular stores and Ca2+ influx. The Ca2+ release was blocked by dantrolene (10(-5) M), and the influx by **La3**+. The effects of [Ca2+]e on [Ca2+]i suggests the presence of a Ca2+ receptor on the **osteoclast** cell membrane that could be coupled to mechanisms regulating cell function. Expression of the [Ca2+]e effect on [Ca2+]i was similar. . .

L22 ANSWER 37 OF 73 WPIDS (C) 2003 THOMSON DERWENT
AN 1989-032250 [04] WPIDS

DNN N1989-024447 DNC C1989-014057
TI Large-area directly-heated lanthanum hexa boride cathode structure - provides uniform high emission with high current density and focusing capability.
DC L03 V05 V08
IN GORDON, K C; KIPPENHAM, D O; LEUNG, K N; MOUSSA, D; PURGALIS, P; WEST, M W; WILDE, S B; WILLIAMS, M D
PA (REGC) UNIV CALIFORNIA; (USAT) US DEPT ENERGY
CYC 1
PI US 4795940 A 19890103 (198904)* 5p
US 108327 A0 19890418 (198930) 15p
ADT US 4795940 A US 1987-108327 19871014; US 108327 A0 US 1987-108327 19871014
PRAI US 1987-108327 19871014
AB US 4795940 A UPAB: 20011211
A directly heated **lanthanum** hexaboride cathode system (10) comprises:- (1) A **lanthanum** hexaboride cathode element (II) characterised by:- (i) A generally circular shape with a head (21) and **bone** (22) at opposite ends of a central axis, (ii) the head end having both a generally planar minim surface (23) extending radially from the central axis and an peripheral contact surface (24), (iii) an integral, axially, elongated, tapered , intermediate body (26)extending along the central axis and having a progressively diminishing arm-section from head towards bone. (2) First and second electrical connectors (13,12) in conducting engagement with the outer peripheral contact surface of the cathode element head and the cathode element base respectively. (3) Means (16) for establishing current flow from one electrical connector to the other through the cathode element.
USE/ADVANTAGE - Esp. for high-planar, free electron lasers. Uniform high minim achieved with high current density and focusing capability. Dwg.3/7
AB US 4795940 UPAB: 20011211
A directly heated **lanthanum** hexaboride cathode system (10) comprises:- (1) A **lanthanum** hexaboride cathode element (II) characterised by:- (i) A generally circular shape with a head (21) and **bone** (22) at opposite ends of a central axis, (ii) the head end having both a generally planar minim surface (23). . .

L22 ANSWER 38 OF 73 MEDLINE DUPLICATE 16
AN 90050104 MEDLINE
DN 90050104 PubMed ID: 2479118
TI The penetration of exogenous tracers through the enameloid organ of developing teleost fish teeth.
AU Prostak K S; Seifert P; Skobe Z
CS Forsyth Dental Center, Boston, MA 02115.
NC DE07677 (NIDCR)
SO TISSUE AND CELL, (1989) 21 (3) 419-30.
Journal code: 0214745. ISSN: 0040-8166.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198912
ED Entered STN: 19900328
Last Updated on STN: 20000303
Entered Medline: 19891219
AB In order to determine whether exogenous materials permeate to the forming tooth enameloid matrix, teleost species were injected intramuscularly with horseradish peroxidase (HRP) or myoglobin, or; intracardially with **lanthanum** nitrate or HRP, then killed a predetermined intervals post-injection. Tooth bearing **bones** were processed for transmission electron microscopy. At the enameloid matrix formation stage, capillaries associated with the enameloid organ were few in number and rarely fenestrated. Both organic tracers reached the matrix at cervical but not coronal, regions of the teeth in all species examined. Lanthanum

was rarely observed extravascularly and never extended to the enameloid matrix at the secretion stage. At the enameloid mineralization stage, fenestrated capillaries were closely associated with the outer dental epithelial cells (ODE). All tracers were observed in the plasma membrane invaginations of the ODE. Only intracardially injected HRP compromised the apical intercellular junctions of the inner dental epithelial cells (IDE) to reach the mineralizing enameloid Lanthanum did not extend past the ODE-IDE cell junctions. It is concluded that the close association of mineralization stage fenestrated capillaries with the highly invaginated ODE cells result in increased tracer penetration compared to the secretory stage. The deeper penetration of the organic tracers, compared with lanthanum, between mineralization stage IDE cells may be due to longer in vivo circulation of the former material. The apical junctions of mineralization stage IDE cells, however, remained impermeable to the organic tracers. The absence of mineral in secretory stage enameloid mineral could not be due to specialized cell junctions preventing access of molecules to the matrix. It is suggested that controlling factors other than cellular permeability initiate enameloid mineralization.

AB . . . to the forming tooth enameloid matrix, teleost species were injected intramuscularly with horseradish peroxidase (HRP) or myoglobin, or; intracardially with **lanthanum** nitrate or HRP, then killed a predetermined intervals post-injection. Tooth bearing **bones** were processed for transmission electron microscopy. At the enameloid matrix formation stage, capillaries associated with the enameloid organ were few. . .

L22 ANSWER 39 OF 73 MEDLINE DUPLICATE 17
AN 89360565 MEDLINE
DN 89360565 PubMed ID: 2527909
TI Inhibition of cutaneous contact hypersensitivity by calcium transport inhibitors lanthanum and diltiazem.
AU Diezel W; Gruner S; Diaz L A; Anhalt G J
CS Department of Dermatology, Johns Hopkins University School of Medicine, Baltimore, Maryland 21205.
NC RO1-AR32081 (NIAMS)
RO1-AR32490 (NIAMS)
RO1-AR32599 (NIAMS)
+
SO JOURNAL OF INVESTIGATIVE DERMATOLOGY, (1989 Sep) 93 (3) 322-6.
Journal code: 0426720. ISSN: 0022-202X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198910
ED Entered STN: 19900309
Last Updated on STN: 19970203
Entered Medline: 19891011
AB Epidermal Langerhans cells (ELC) are **bone** marrow-derived immune cells that are important in allergic contact dermatitis. We examined the influence of calcium transport inhibitors, **lanthanum** and diltiazem hydrochloride, on allergic contact dermatitis induced by 1-chloro-2,4-dinitrobenzene (DNCB) in BALB/c mice. Systemic lanthanum at a dose of 0.08 mg/kg and topical lanthanum (50 microliters of 10% solution) were given 5 d before DNCB sensitization. Systemic diltiazem (30 mg/kg per dy) was given for 3 d during sensitization with DNCB. In all animals, challenge with topical DNCB to the ear skin was performed 5 d after sensitization and ear swelling was measured. Twenty four hours post-DNCB challenge, animals receiving systemic lanthanum demonstrated a 56% decrease in contact hypersensitivity (ear swelling) compared with non-lanthanum-treated animals (0.08 +/- 0.03 mm vs 0.18 mm +/- 0.02 mm, p less than 0.01). Topical lanthanum produced a 58% decrease in contact hypersensitivity (0.20 +/- 0.02 mm vs 0.41 +/- 0.03 mm, p less than 0.01). The DNCB-induced ear swelling also resolved more quickly in animals

treated with lanthanum. Systemic diltiazem produced a 67% decrease in ear swelling (0.05 +/- 0.01 mm vs 0.15 +/- 0.02 mm, p less than 0.001). A decrease in epidermal Langerhans cell density of 13 to 14% was produced by systemic lanthanum, detected by both ATPase staining and Ia staining, respectively (p less than 0.05). Approximately 20% of the Langerhans cells were morphologically abnormal, having become "rounded," and lacking normal dendritic processes. From these results, we infer that calcium transport across the cell membrane of ELC may be important in the regulation of their function. Lanthanides and other calcium-channel blockers may be useful pharmacologic agents to probe these phenomena.

AB Epidermal Langerhans cells (ELC) are **bone** marrow-derived immune cells that are important in allergic contact dermatitis. We examined the influence of calcium transport inhibitors, **lanthanum** and diltiazem hydrochloride, on allergic contact dermatitis induced by 1-chloro-2,4-dinitrobenzene (DNCB) in BALB/c mice. Systemic lanthanum at a dose of. . .

L22 ANSWER 40 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1990:263420 BIOSIS
DN BA90:5506
TI EVALUATION OF SERUM THYMIDINE KINASE IN HEMATOLOGIC NEOPLASM.
AU MASI V; VOLPE S; VOLPE A; VARRIALE E
CS LABORATORIA ANALISI, USL, 2 S. ANGELO DEI LOMBARDI, AVELLINO, ITALY.
SO RASS MED SPER, (1988 (1989)) 35 (11-12), 253-260.
CODEN: RMSPAY. ISSN: 0033-9555.
FS BA; OLD
LA Italian
AB In the present study, serum Thymidine Kinase (S-TK) levels were evaluated in 89 patients with different hematological malignancies; Acute Leukemias (**LA**): 16 pts, **3**/16 in complete remission (RC); Chorionic Lymphocytic Leukemia (LLC): 20 pts; Non-Hodgkin's Lymphomas (LNH): 14 pts; Hodgkin's Lymphomas (LH); 12 pts; **Multiple Myeloma** (MM): 13 pts; Chronic Myelogenous Leukemia (LMC): 6 pts; Myelofibrosis (MI): 6 pts; Polycythemia Vera (PV): 2 pts. Normal S-TK levels had been determined in 30 healthy normal subjects (mean level of S-TK: 4.52 U/.mu.l, range: 1.9-5.9 U/.mu.l). Highest S-TK values were found in AL (41-140 U/.mu.l) and LMC (52-158 U/.mu.l). Patients with LA of lymphoid line had higher S-TK mean value than patients kwith LA of myeloid line; however data was not (statistically) significant (no data reported). S-TK levels in 8/11 patients with LA at presentation decreased within normal range after RC, while S-TK levels in 3 patients, that did not respond to therapy or rapidly relapsed, never decreased. The S-TK level in 3 patients with LA in RC was in normal range and it increased in 1 patient on relapse. In myeloproliferative diseases, S-TK level was increased in LMC and in MI, while in 2 patients with PV it was in normal range. We have found a direct relation of the S-TK level with clinical stages of disease in patients with LLC, LNH and LH. In LNH and LH we have observed a progressive increase of S-TK levels related to histological type (no data reported). In patients with MM the S-TK levels remained in normal range in the early clinical stages of disease, while in advanced clinical stages these levels increased constantly. Date here reported suggest that the evaluation of S-TK levels could be a useful reference parameter, with possible prognostic implications, in patients with neoplastic haematological diseases.

AB. . . In the present study, serum Thymidine Kinase (S-TK) levels were evaluated in 89 patients with different hematological malignancies; Acute Leukemias (**LA**): 16 pts, **3**/16 in complete remission (RC); Chorionic Lymphocytic Leukemia (LLC): 20 pts; Non-Hodgkin's Lymphomas (LNH): 14 pts; Hodgkin's Lymphomas (LH); 12 pts; **Multiple Myeloma** (MM): 13 pts; Chronic Myelogenous Leukemia (LMC): 6 pts; Myelofibrosis (MI): 6 pts; Polycythemia Vera (PV): 2 pts. Normal S-TK. . .

L22 ANSWER 41 OF 73 MEDLINE DUPLICATE 18

AN 89006867 MEDLINE
DN 89006867 PubMed ID: 3169859
TI Cellular defence mechanism under the influence of **lanthanum** intoxication in chick **bone** marrow.
AU Ghosh N; Chattopadhyay D; Mukhopadhyay S; Addya S; Chatterjee G C
SO INDIAN JOURNAL OF EXPERIMENTAL BIOLOGY, (1988 May) 26 (5) 374-6. Journal code: 0233411. ISSN: 0019-5189.
CY India
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198811
ED Entered STN: 19900308
Last Updated on STN: 19980206
Entered Medline: 19881117
TI Cellular defence mechanism under the influence of **lanthanum** intoxication in chick **bone** marrow.

L22 ANSWER 42 OF 73 MEDLINE DUPLICATE 19
AN 89150599 MEDLINE
DN 89150599 PubMed ID: 3228613
TI Incorporation of 140-**lanthanum** into **bones**, teeth and hydroxyapatite.
AU Fernandez-Gavarron F; Huque T; Rabinowitz J L; Brand J G
CS Department of Biochemistry, Faculty of Medicine, U.N.A.M. Mexico D.F.
SO BONE AND MINERAL, (1988 Mar) 3 (4) 283-91. Journal code: 8610542. ISSN: 0169-6009.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198904
ED Entered STN: 19900306
Last Updated on STN: 19900306
Entered Medline: 19890411
AB The incorporation of **lanthanum** in the form of 140-**lanthanum** onto the surface of teeth, **bone** and synthetic hydroxyapatite was investigated. A small amount of **lanthanum** was taken up by the surface of all of the materials studied regardless of their origin. The depth of penetration into **bone** and teeth was dependent upon **lanthanum** concentration and time of incubation and, in these experiments, ranged from an estimated 5 to 15 microns. An exchange of **lanthanum** for calcium in the apatite matrix may be responsible for increased resistance of the hard tissues to acid dissolution. The effects of pH, temperature, time and concentration of the lanthanum solutions on this incorporation were investigated. Possible clinical uses of this effect are discussed.
TI Incorporation of 140-**lanthanum** into **bones**, teeth and hydroxyapatite.
AB The incorporation of **lanthanum** in the form of 140-**lanthanum** onto the surface of teeth, **bone** and synthetic hydroxyapatite was investigated. A small amount of **lanthanum** was taken up by the surface of all of the materials studied regardless of their origin. The depth of penetration into **bone** and teeth was dependent upon **lanthanum** concentration and time of incubation and, in these experiments, ranged from an estimated 5 to 15 microns. An exchange of **lanthanum** for calcium in the apatite matrix may be responsible for increased resistance of the hard tissues to acid dissolution. The. . .

L22 ANSWER 43 OF 73 MEDLINE
AN 90380589 MEDLINE
DN 90380589 PubMed ID: 2484370
TI Effects of traces of rare earth elements on the protozoan Blepherisma and

on mice.
AU Zhang W D; Li F Q; Zhang X Y; Chen Y
CS Center of Structure and Element Analysis, University of Science and Technology of China, Anhui.
SO BIOLOGICAL TRACE ELEMENT RESEARCH, (1988 Sep-Dec) 17 81-90.
Journal code: 7911509. ISSN: 0163-4984.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199010
ED Entered STN: 19901122
Last Updated on STN: 19960129
Entered Medline: 19901026
AB The growth of the protozoan Blepherisma is stimulated by **Lanthanum** (La) at concentrations as low as 0.32 ppm. In mice Yttrium (Y) and Ytterbium (Yb) are absorbed, accumulated, and metabolized. Both rare earth elements (RE) exhibit a high affinity for teeth and **bones**, accumulation occurs and metabolism is slow. In the livers of RE-exposed mice, concentrations are variable. The liver is apparently capable of absorbing and discharging RE in a manner depending on metabolic activity. The main route of discharge for ingested REs is the alimentary canal. Exposure of pregnant mice to RE leads to rapid placental transfer of RE; 14.1% of the total amount of RE administered was detected in newborn mice. Young, developing organisms appear to be especially susceptible to RE accumulation.
AB The growth of the protozoan Blepherisma is stimulated by **Lanthanum** (La) at concentrations as low as 0.32 ppm. In mice Yttrium (Y) and Ytterbium (Yb) are absorbed, accumulated, and metabolized. Both rare earth elements (RE) exhibit a high affinity for teeth and **bones**, accumulation occurs and metabolism is slow. In the livers of RE-exposed mice, concentrations are variable. The liver is apparently capable. . .

L22 ANSWER 44 OF 73 DRUGU COPYRIGHT 2003 THOMSON DERWENT
AN 1987-06492 DRUGU P C
TI Studies on Anti-Inflammatory Activity of some Lanthanon Complexes of Bioactive Organic Molecules.
AU Singh L; Mohan G; Parashar R K; Tripathi S P; Sharma R C
LO Agra, India
SO Curr.Sci. (55, No. 17, 846-48, 1986) 2 Fig. 1 Tab. 12 Ref.
CODEN: CUSCAM ISSN: 0011-3891
AV Chemical Laboratories, Agra University, Agra 282 004, India.
LA English
DT Journal
FA AB; LA; CT; MPC
FS Literature
AB Lanthanum (La), praseodymium (Pr), neodymium (Nd), gadolinium (Gd) and dysprosium (Dy) complexes of pyridine- 2,6-dicarboxylate (PDA), 8-hydroxy-quinoline (HQ) and 2-picolinic acid (PIC) were prepared and antiinflammatory activity was tested in rats with carragheenin paw edema, cotton pellet granuloma and formaldehyde induced **arthritis**. Only **La(III)**-PDA-HQ showed some activity in subacute and chronic inflammation. Oxyphenbutazone was used for comparison.
AB. . . (PIC) were prepared and antiinflammatory activity was tested in rats with carragheenin paw edema, cotton pellet granuloma and formaldehyde induced **arthritis**. Only **La(III)**-PDA-HQ showed some activity in subacute and chronic inflammation. Oxyphenbutazone was used for comparison.

L22 ANSWER 45 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1986:90504 BIOSIS
DN BA81:920
TI INHIBITION BY LANTHANIDES OF NEUTRAL PROTEINASES SECRETED BY HUMAN RHEUMATOID SYNOVIUM.

AU EVANS C H; RIDELLA J D
CS ORTHOPEADIC RES. LAB., UNIV. PITTSBURGH, 986 SCAIFE HALL, PITTSBURGH, PA., USA, 15261.
SO EUR J BIOCHEM, (1985) 151 (1), 29-32.
CODEN: EJBCAI. ISSN: 0014-2956.
FS BA; OLD
LA English
AB Fragments of human, rheumatoid synovium were maintained on organ culture for three days under serum-less conditions. Their conditioned media contained collagenolytic, gelatinolytic and caseinolytic activities, which were susceptible to inhibition by lanthanide ions. Of the four lanthanides tested, Sm3+ proved the best inhibitor of gelatinase and caseinase, while La3+ inhibited collagenase the most strongly. Inhibition of collagenase by La3+ was uncompetitive. A direct binding assay confirmed the greater association between collagen fibrils and collagenase in the presence of La3+. Ca2+ was not required for binding of the uninhibited enzyme to collagen, but acted to stabilize collagenase against thermoinactivation.
IT Miscellaneous Descriptors
ARTHRITIS GELATINASE CASEINASE COLLAGENASE CALCIUM
LANTHANUM SAMARIUM

L22 ANSWER 46 OF 73 DRUGU COPYRIGHT 2003 THOMSON DERWENT
AN 1984-14448 DRUGU M
TI Comparative Penetration of Latamoxef (Moxalactam) and Cefazolin into Human Knee Following Simultaneous Administration.
AU Hume A L; Polk R; Kline B; Cardea J
LO Richmond, Virginia, United States
SO J.Antimicrob.Chemother. (12, No. 6, 623-27, 1983) 1 Fig. 2 Tab. 5 Ref.
CODEN: JACHDX ISSN: 0305-7453
AV Department of Pharmacy, Medical College of Virginia, Virginia Commonwealth University, Richmond, Virginia 23298, U.S.A.
LA English
DT Journal
FA AB; LA; CT; MPC
FS Literature
AB 10 Adults scheduled for total knee replacement were given latamoxef (LA) and cefazolin (CE) (both Lilly). i.v. Serum CE concentrations were significantly greater than LA at all times, whereas bone concentrations did not differ.
ABEX. . . a tourniquet was applied prior to surgery. Blood was removed before and at 15 and 30 min following the antibiotics. **Bone** samples were also obtained. Serum and **bone** LA and CE concentrations were determined by a modified HPLC method. Serum CE concentrations (52.6 and 40.4 mg/l) were greater than those of **LA** (69.3 and 56.4 mg/l) at 15 and 30 min, respectively. CE **Bone** concentrations (3.03 ug/g) did not differ significantly from those of LA (2.62 ug/g).

L22 ANSWER 47 OF 73 WPIDS (C) 2003 THOMSON DERWENT
AN 1981-70200D [39] WPIDS
TI Ethylidene di acetate from methyl acetate or di methyl ether - by hydrocarbonylation in presence of palladium catalyst and halide.
DC E17
IN ITO, A; KIJIMA, Y; WATANABE, T
PA (MITN) MITSUBISHI GAS CHEM IND CO LTD
CYC 5
PI EP 35860 A 19810916 (198139)* EN 26p
R: DE FR GB IT
JP 56123924 A 19810929 (198145)
EP 35860 B 19840314 (198412) EN
R: DE FR GB IT
DE 3162565 G 19840419 (198417)
JP 59034164 B 19840821 (198437)
ADT EP 35860 A EP 1981-300873 19810303; JP 56123924 A JP 1980-28433 19800306

PRAI JP 1980-28433 19800306
AB EP 35860 A UPAB: 19930915
Prodn. of ethylidene diacetate (I) and/or acetaldehyde (II) is carried out by reacting methyl acetate or dimethyl ether with CO and H2 under anhydrous conditions in the presence of a catalyst system comprising (a) Pd supported on a porous inorganic material and (b) an iodide or bromide.

The support material is pref. carbon, alumina, silica, silica-alumina or BaSO4. Component (b) is pref. an iodide, e.g. MeI, acetyl iodide or HI. Component (a) is pref. used in an amt. corresp. to a Pd concn. of 0.0001-25 (esp. 0.005-10) wt.% based on the reaction mixt. The concn. of component (b) is pref. 0.001-10,000 (esp. 1-2500) mmole/l. The reaction mixt. can also contain a promoter comprising NH3, a NH4 salt or an organic cpd. contg. trivalent N or P.

(I) is useful as an intermediate for vinyl acetate. The process gives high yields of (I) with insignificant (generally less than 1%) loss of catalyst through dissolution of Pd in the reaction mixt.

ABEQ. . .
area 0.1-1500 m2/g, and (ii) as sec. component an iodide and/or bromide thereof.

Pref. support comprises (activated) carbon, graphite, **bone** black, alumina/silica, barium sulphate, zeolite, spinel, magnesia adhered alumina, thoria, titanium oxide, zirconium oxide, thorium oxide, **lanthanum oxide**, cerium oxide, zinc oxide, tantalum, clay, diatomaceous earth, pumice, bauxite, (treated) terra alba, silicon carbide, mol. sieve, ceramic honeycomb, boria,. . .

L22 ANSWER 48 OF 73 MEDLINE DUPLICATE 20
AN 82092941 MEDLINE
DN 82092941 PubMed ID: 6797704
TI Morphological evidence of gap junctions between bone cells.
AU Doty S B
NC AM-07822 (NIADDK)
SO CALCIFIED TISSUE INTERNATIONAL, (1981) 33 (5) 509-12.
Journal code: 7905481. ISSN: 0171-967X.
Report No.: NASA-82092941.
CY GERMANY, WEST: Germany, Federal Republic of
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; Space Life Sciences
EM 198203
ED Entered STN: 19900316
Last Updated on STN: 19970203
Entered Medline: 19820313
AB Cell membrane specializations occur at contact sites between adjacent osteoblasts and osteoblasts and osteocytes. These junctions have been described by other investigators as being important in preventing the extracellular movement of material around **bone** cells. Previously we described how certain small proteins circumvented the **osteoblast** population and rapidly penetrated the canalicular-osteocyte system. In the present study we used **lanthanum** colloid as an extracellular marker, the **lanthanum** readily penetrated the **bone** cell junctions and the extracellular space of **bone**. Morphologically, these junctions were not "tight" or "occluding" structures, but resembled "gap" junctions. These gap junctions contained elements which formed intercellular bridges between adjacent cells but also maintained a 2 nm space between cells that contained extracellular fluid. These gap junctions may have an important function in the control or coordination of bone cell activity throughout a given volume of bone.
AB . . . osteocytes. These junctions have been described by other investigators as being important in preventing the extracellular movement of material around **bone** cells. Previously we described how certain small proteins circumvented the **osteoblast** population and rapidly penetrated the canalicular-osteocyte system. In the present

study we used **lanthanum** colloid as an extracellular marker, the **lanthanum** readily penetrated the **bone** cell junctions and the extracellular space of **bone**. Morphologically, these junctions were not "tight" or "occluding" structures, but resembled "gap" junctions. These gap junctions contained elements which formed. . .

L22 ANSWER 49 OF 73 MEDLINE
AN 81106593 MEDLINE
DN 81106593 PubMed ID: 7457434
TI Lead in bone. I. Direct analysis for lead in milligram quantities of bone ash by graphite furnace atomic absorption spectroscopy.
AU Wittmers L E Jr; Alich A; Aufderheide A C
SO AMERICAN JOURNAL OF CLINICAL PATHOLOGY, (1981 Jan) 75 (1) 80-5.
Journal code: 0370470. ISSN: 0002-9173.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 198103
ED Entered STN: 19900316
Last Updated on STN: 19970203
Entered Medline: 19810327
AB A method for direct lead content analysis of milligram quantities of **bone** ash by flameless atomic absorption spectroscopy is described. **Bone** ash (25 mg) is dissolved with HNO3 and diluted with H2O and La2O3 (1,000 micrograms/ml) solution. **Lanthanum** ion is used to suppress matrix interferences possibly arising in part from sulfate components of the **bone** ash. Two bulk **bone** samples (about 14 and 60 micrograms Pb/g ash, respectively) were used to determine daily, within-day, and overall variability of the method. Values for "low lead" bone samples were 14.08 +/- 1.74 (SD) microgram Pb/g ash and for "high lead" bone samples were 60.85 +/- 5.24 (SD) microgram Pb/b ash. The overall value of 58 lead recovery determinations from bone ash analysis was 103.5% (+/- 12.9% SD). These values compare favorably with results previously reported using gram amounts of sample.
AB A method for direct lead content analysis of milligram quantities of **bone** ash by flameless atomic absorption spectroscopy is described. **Bone** ash (25 mg) is dissolved with HNO3 and diluted with H2O and La2O3 (1,000 micrograms/ml) solution. **Lanthanum** ion is used to suppress matrix interferences possibly arising in part from sulfate components of the **bone** ash. Two bulk **bone** samples (about 14 and 60 micrograms Pb/g ash, respectively) were used to determine daily, within-day, and overall variability of the. . .

L22 ANSWER 50 OF 73 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 81110311 EMBASE
DN 1981110311
TI Lead in bone. I. Direct analysis for lead in milligram quantities of bone ash by graphite atomic absorption spectroscopy.
AU Wittmers Jr. L.E.; Alich A.; Aufderheide A.C.
CS Dept. Physiol., Sch. Med., Univ. Minnnesota, Duluth, 55812 Minn., United States
SO American Journal of Clinical Pathology, (1981) 75/1 (80-85).
CODEN: AJCPAI
CY United States
DT Journal
FS 029 Clinical Biochemistry
030 Pharmacology
LA English
AB A method for direct lead content analysis of milligram quantities of **bone** ash by flameless atomic absorption spectroscopy is described. **Bone** ash (25 mg) is dissolved with HNO3 and diluted with H2O and La2O3 (1,000 .mu.g/ml) solution. **Lanthanum** ion is used to suppress matrix interferences possibly arising in part from sulfate

components of the **bone** ash. Two bulk **bone** samples (about 14 and 60 .mu.g Pb.g ash, respectively) were used to determine daily, within-day, and overall variability of the method. Values for 'low lead' bone samples were 14.08 .+-. 1.74 (SD) .mu.g Pb/g ash and for 'high lead' bone samples were 60.85 .+-. 5.24 (SD) .mu.g Pb/g ash. The overall value of 58 lead recovery determinations from bone ash analysis was 103.5% (.+-.12.9% SD). These values compare favorably with results previously reported using gram amounts of sample.

AB A method for direct lead content analysis of milligram quantities of **bone** ash by flameless atomic absorption spectroscopy is described. **Bone** ash (25 mg) is dissolved with HNO3 and diluted with H2O and La2O3 (1,000 .mu.g/ml) solution. **Lanthanum** ion is used to suppress matrix interferences possibly arising in part from sulfate components of the **bone** ash. Two bulk **bone** samples (about 14 and 60 .mu.g Pb.g ash, respectively) were used to determine daily, within-day, and overall variability of the. . .

L22 ANSWER 51 OF 73 MEDLINE DUPLICATE 21
AN 81187056 MEDLINE
DN 81187056 PubMed ID: 7226663
TI Influence of parathyroid hormone on bone cell ultrastructure.
AU Matthews J L; Talmage R V
NC DE-224 (NIDCR)
SO CLINICAL ORTHOPAEDICS AND RELATED RESEARCH, (1981 May) (156) 27-38. Journal code: 0075674. ISSN: 0009-921X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 198107
ED Entered STN: 19900316
Last Updated on STN: 20000303
Entered Medline: 19810723

AB A study in rats demonstrated that morphologic changes in the bone osteocytes and osteoblasts are produced following parathyroid hormone (PTH) injection into thyroparathyroidectomized animals. It further showed that similar changes occur in normal rats as the result of of extended fasting. Plasma calcium concentrations were determined at sacrifice to ascertain that these changes in bone occurred at times when plasma calcium is rising as the result of parathyroid hormone stimulation. Tibias from these animals were removed and prepared for morphologic observation using both transmission (TEM) and scanning (SEM) electron microscopy. Specific structural features characterized bone cells stimulated by exogenous or endogenous PTH. The most significant morphologic alterations involved surface microvilli and blebs as determined by SEM. TEM studies showed alterations in the cisternae of the rough endoplasmic reticulum (RER). Additionally, cell shape varied markedly from the control cuboidal morphology. These morphologic changes occurred during peak periods of plasma calcium change and returned to control morphology as plasma calcium levels normalized. Use of an extracellular electron-dense tracer (**lanthanum**) confirmed the patency of the intercellular channels and the presence of a fluid space between the **bone** cell plasma membranes and the mineralized surface. PTH stimulation modified cell activity such that the tracer material entered the cell more readily, possibly by inducing increased pinocytosis (endocytosis). This study supports the concept that the osteocytes and lining cells on the surface of bone play a role in maintenance of plasma calcium concentrations.

AB . . . of plasma calcium change and returned to control morphology as plasma calcium levels normalized. Use of an extracellular electron-dense tracer (**lanthanum**) confirmed the patency of the intercellular channels and the presence of a fluid space between the **bone** cell plasma membranes and the mineralized surface. PTH stimulation modified cell activity such that the tracer material entered the cell. . .

L22 ANSWER 52 OF 73 WPIDS (C) 2003 THOMSON DERWENT
AN 1981-00464D [01] WPIDS
TI Bone implant formed of high and low density ceramics - with dense core and porous layers on inside and outside to improve marrow growth and bone knitting.
DC D22 L02 P32
IN BOROM, M P
PA (GENE) GENERAL ELECTRIC CO
CYC 1
PI US 4237559 A 19801209 (198101)*
PRAI US 1979-38097 19790511
AB US 4237559 A UPAB: 19930915
A composite ceramic structure for use as a **bone** implant comprises two members, both of fired alumina, calcium aluminate, **lanthanum** aluminate or yttrium aluminate, one of which has a porosity of 20 vol.% or less and the other has a porosity of 20-65 vol.%.

The dense member is elongated and has an axial aperture, and the more porous member is disposed within this aperture and also contacts selected outer surfaces of the dense member. In the more porous member, at least some of the porosity is interconnected and the grain morphology is indicative of having undergone vapour transport action.

The dense member provides a strong structural core for the composite while the porous parts on the inside and outside encourage growth of new bone marrow and provide a base for bone and tissue attachment.

AB US 4237559 UPAB: 19930915
A composite ceramic structure for use as a **bone** implant comprises two members, both of fired alumina, calcium aluminate, **lanthanum** aluminate or yttrium aluminate, one of which has a porosity of 20 vol.% or less and the other has a. . .

L22 ANSWER 53 OF 73 MEDLINE DUPLICATE 22
AN 80160429 MEDLINE
DN 80160429 PubMed ID: 7364947
TI Suppression of experimental atherosclerosis by the Ca++-antagonist lanthanum. Possible role of calcium in atherogenesis.
AU Kramsch D M; Aspen A J; Apstein C S
SO JOURNAL OF CLINICAL INVESTIGATION, (1980 May) 65 (5) 967-81.
Journal code: 7802877. ISSN: 0021-9738.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 198006
ED Entered STN: 19900315
Last Updated on STN: 19900315
Entered Medline: 19800616
AB Agents inhibiting calcium deposition into arteries are known to suppress atherosclerosis in animals. However, the precise role of calcium in atherogenesis is unknown. In this study, the specific Ca2+-antagonist lanthanum was used to attempt suppression of experimental atherosclerosis and to gain more insight into the possible effects of calcium on atherogenesis. Rabbits were fed an atherogenic diet with and without increasing doses of LaCl3. All cholesterol-fed rabbits showed marked increases in serum cholesterol and ca2+. Untreated atherogenic animals revealed pronounced gross and microscopic atherosclerosis and striking increases in the aortic content of cholesterol, collagen, "elastin," and calcium as well as of elastin calcium, polar amino acids, and cholesterol. With increasing LaCl3 dosage these abnormalities progressively decreased and were completely abolished at the highest dose. The ingested **La3+** was absorbed only in small quantities and had no discernible effect on the calcium and connective tissue content of **bone**, skin, lung, heart, and skeletal muscle nor on myocardial function (left ventricle pressure and left ventricle dp/dt) or myocardial and muscle content in ATP and creatine phosphate. The data suggest that shifts in

arterial Ca2+-distribution may play a decisive part in atherogenesis, and provision of arterial calcium homeostasis by La3+ a pivotal role in its prevention, despite hypercholesteremia. Other inhibitors of calcium deposition into arteries may exert their protective effect by similar mechanisms. However, a direct inhibition of atherogenesis by La3+ cannot entirely be ruled out in this study, although no direct effects of La3+ on tissue metabolism have as yet been reported.

AB . . . and cholesterol. With increasing LaCl3 dosage these abnormalities progressively decreased and were completely abolished at the highest dose. The ingested **La3+** was absorbed only in small quantities and had no discernible effect on the calcium and connective tissue content of **bone**, skin, lung, heart, and skeletal muscle nor on myocardial function (left ventricle pressure and left ventricle dp/dt) or myocardial and. . .

L22 ANSWER 54 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1980:239887 BIOSIS
DN BA70:32383
TI SUPPRESSION OF EXPERIMENTAL ATHERO SCLEROSIS BY THE CALCIUM ION ANTAGONIST LANTHANUM POSSIBLE ROLE OF CALCIUM IN ATHEROGENESIS.
AU KRAMSCH D M; ASPEN A J; APSTEIN C S
CS EVANS MEML. DEP. CLIN. RES., BOSTON UNIV. MED. CENT., BOSTON, MASS. 02118, USA.
SO J CLIN INVEST, (1980) 65 (4), 967-981.
CODEN: JCINAO. ISSN: 0021-9738.
FS BA; OLD
LA English
AB Agents inhibiting Ca deposition into arteries suppress atherosclerosis in animals. The precise role of Ca in atherogenesis is unknown. The specific Ca2+-antagonist La was used to attempt suppression of experimental atherosclerosis and to gain more insight into the possible effects of Ca on atherogenesis. Rabbits were fed an atherogenic diet with and without increasing doses of LaCl3. All cholesterol-fed rabbits showed marked increases in serum cholesterol and Ca2+. Untreated atherogenic animals revealed pronounced gross and microscopic atherosclerosis and striking increases in the aortic content of cholesterol. With increasing LaCl3 dosage the abnormalities progressively decreased and were completely abolished at the highest dose. The ingested **La3+** was absorbed only in small quantities and had no discernible effect on the Ca and connective tissue content of **bone**, skin, lung, heart, skeletal muscle myocardial function (left ventricle pressure and left ventricle dp/dt [rate of pressure change]) or myocardial and muscle content in ATP and creatine phosphate. Shifts in arterial Ca2+-distribution may play a decisive role in atherogenesis, and provision of arterial Ca homeostasis by La3+ may play a pivotal role in its prevention, despite hypercholesteremia. Other inhibitors of Ca deposition into arteries may exert their protective effects by similar mechanisms. A direct inhibition of atherogenesis by La3+ cannot entirely be ruled out in this study, but no direct effects of La3+ on tissue metabolism were reported.
AB. . . of cholesterol. With increasing LaCl3 dosage the abnormalities progressively decreased and were completely abolished at the highest dose. The ingested **La3+** was absorbed only in small quantities and had no discernible effect on the Ca and connective tissue content of **bone**, skin, lung, heart, skeletal muscle myocardial function (left ventricle pressure and left ventricle dp/dt [rate of pressure change]) or myocardial. . .

L22 ANSWER 55 OF 73 MEDLINE DUPLICATE 23
AN 81114475 MEDLINE
DN 81114475 PubMed ID: 7461057
TI A novel stromal cell type in the rat marrow recognizable by its preferential uptake of lanthanum.
AU Tavassoli M; Aoki M; Shaklai M
SO EXPERIMENTAL HEMATOLOGY, (1980 May) 8 (5) 568-77.

Journal code: 0402313. ISSN: 0301-472X.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198104
ED Entered STN: 19900316
Last Updated on STN: 19900316
Entered Medline: 19810421
AB A novel stromal cell type is described in the rat **bone** marrow. It is distinguishable from other stromal cells (macrophages, reticular cells, etc.) by its preferential uptake of the electron dense tracer **lanthanum** nitrate, which can then serve as a marker for this cell type. In low concentration of lanthanum, this cell type is the only marrow cell that takes up the tracer. Other stromal cells do not take ip up even in high concentration. This novel stromal type is associated with both erythropoietic and granulopoietic areas of the marrow tissue. Its branching cytoplasm is very light in density and contains no characteristic cytoplasmic organelles. Its function is not yet known.
AB A novel stromal cell type is described in the rat **bone** marrow. It is distinguishable from other stromal cells (macrophages, reticular cells, etc.) by its preferential uptake of the electron dense tracer **lanthanum** nitrate, which can then serve as a marker for this cell type. In low concentration of lanthanum, this cell type. . .

L22 ANSWER 56 OF 73 MEDLINE DUPLICATE 24
AN 80075075 MEDLINE
DN 80075075 PubMed ID: 513186
TI Cellular relationship in the rat **bone** marrow studied by freeze fracture and **lanthanum** impregnation thin-sectioning electron microscopy.
AU Shaklai M; Tavassoli M
SO JOURNAL OF ULTRASTRUCTURE RESEARCH, (1979 Dec) 69 (3) 343-61.
Journal code: 0376344. ISSN: 0022-5320.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198002
ED Entered STN: 19900315
Last Updated on STN: 19900315
Entered Medline: 19800215
TI Cellular relationship in the rat **bone** marrow studied by freeze fracture and **lanthanum** impregnation thin-sectioning electron microscopy.

L22 ANSWER 57 OF 73 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 79199652 EMBASE
DN 1979199652
TI Morphological support of a role for cells lining bone surfaces in maintenance of plasma calcium concentration.
AU Norimatsu H.; Vander Wiel C.J.; Talmage R.V.
CS Dept. Surg., UNC Sch. Med., Chapel Hill, N.C. 27514, United States
SO Clinical Orthopaedics and Related Research, (1979) NO. 138/- (254-262).
CODEN: CORTBR
CY United States
DT Journal
FS 033 Orthopedic Surgery
005 General Pathology and Pathological Anatomy
029 Clinical Biochemistry
LA English
AB This is an electron microscopic study of the changes produced by small doses of PTH (.01 U/g b.w.) on the lining cells and their microenvironment at the endosteal surfaces of the tibia of neonate rats. Pups used were 3

to 4 days old for transmission electron microscopic (T.E.M.) study and 60 to 8 days old for scanning electron microscopic (S.E.M.) examination. Pups were removed from their mothers, thyroparathyroidectomized (TPTX) under light anesthesia and fasted for 4 hours; following which parathyroid hormone (PTH) was injected subcutaneously. Rats were sacrificed 5 and 15 minutes after hormone injection. The following results were obtained: During the 4 hours after TPTX, bone lining cells in neonates become elongated and give ultrastructural evidence of decreased cellular activity. Obvious signs of increased activity could be seen within 5 minutes after PTH injection. Changes included distended E.R., clearly recognizable Golgi complexes, and plasma membrane microvilli and blebs indicative of increased activity. Mitochondrial granules increased in density. S.E.M. changes supported those seen under T.E.M. Pericellular changes in the distribution of **lanthanum** indicated that PTH rapidly influenced the fluid environment of osteocytes and lining cells. Because of the rapidity and sensitivity of the response of **bone** lining cells to PTH, it is concluded that these cells are prime targets for PTH action, and that a role for them in maintenance of plasma calcium concentrations cannot be excluded.

AB . . . increased activity. Mitochondrial granules increased in density. S.E.M. changes supported those seen under T.E.M. Pericellular changes in the distribution of **lanthanum** indicated that PTH rapidly influenced the fluid environment of osteocytes and lining cells. Because of the rapidity and sensitivity of the response of **bone** lining cells to PTH, it is concluded that these cells are prime targets for PTH action, and that a role. . .

L22 ANSWER 58 OF 73 MEDLINE DUPLICATE 25
AN 79212036 MEDLINE
DN 79212036 PubMed ID: 455841
TI Electron microscopic study of the effects of calcitonin on bone cells and their extracellular milieu.
AU Norimatsu H; Wiel C J; Talmage R V
SO CLINICAL ORTHOPAEDICS AND RELATED RESEARCH, (1979 Mar-Apr) (139) 250-8. Journal code: 0075674. ISSN: 0009-921X.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Abridged Index Medicus Journals; Priority Journals
EM 197909
ED Entered STN: 19900315
Last Updated on STN: 19900315
Entered Medline: 19790927
AB This is a scanning and transmission electron microscopic study of the changes produced by small doses of calcitonin (0.15 mU/g body weight) in the lining cells and their microenvironment at the endosteal surfaces of the tibia of neonate rats. The techniques used included "freeze substitution" preparation, staining with lead acetate, and with lanthanum added to the fixative. Rats were sacrificed 5, 15, and 30 minutes after subcutaneous injection of salmon calcitonin. The following observations were made; within 5 minutes following calcitonin injection, the response of the endosteal lining cells included increased numbers of microvilli and surface blebs. Cell contraction was apparent, including an irregular appearance of the plasma membrane and enlarged intercellular channel size, though cell-to-cell contact still occurred. By 15 minutes, following hormone injection, the cells were returning to normal morphology and were in close contact with each other. Calcitonin caused a marked accumulation of **lanthanum** around osteocytes and in **bone** fluid adjacent to lining cells. The **lanthanum** was found in large aggregates and appeared to "clump." Following "freeze substiuttion" preparation, the edge of the osteoid was bordered by what appeared to be mineral aggregates. We conclude that **bone** lining cells and osteocytes respond rapidly to low doses of calcitonin, thereby suggesting that they play a role in the physiological action of the hormone. This

function includes a modification of the fluid microenvironment of these cells, possibly providing a site for temporary storage of calcium.

AB . . . cells were returning to normal morphology and were in close contact with each other. Calcitonin caused a marked accumulation of **lanthanum** around osteocytes and in **bone** fluid adjacent to lining cells. The **lanthanum** was found in large aggregates and appeared to "clump." Following "freeze substiuttion" preparation, the edge of the osteoid was bordered by what appeared to be mineral aggregates. We conclude that **bone** lining cells and osteocytes respond rapidly to low doses of calcitonin, thereby suggesting that they play a role in the. . .

L22 ANSWER 59 OF 73 MEDLINE DUPLICATE 26
AN 80065401 MEDLINE
DN 80065401 PubMed ID: 508632
TI Junctional structures in haemopoiesis: a study of **bone** marrow using freeze-fracture and **lanthanum** impregnation techniques.
AU Tavassoli M; Shaklai M
SO BRITISH JOURNAL OF HAEMATOLOGY, (1979 Oct) 43 (2) 235-41.
Journal code: 0372544. ISSN: 0007-1048.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198002
ED Entered STN: 19900315
Last Updated on STN: 19900315
Entered Medline: 19800228
AB Intercellular regions of contact in the haemopoietic compartment of normal rat **bone** marrow were studied using freeze-fracture and **lanthanum** tracer techniques. Small adhering junctions (like desmosomes and their variants) were found between haemopoietic and stromal cells but tight, gap or septate junctions could not be identified. These findings are in agreement with the concept that extensive junctional structures may be inconsistent with orderly development of this transient cell system, preventing the delivery of mature cells into the circulation and resulting in ineffective haemopoiesis. Occasionally 'pinching off' of a portion of the cytoplasm of erythroid cells by stromal cells was seen, providing a means for intercellular communication. Structures similar to intercellular bridges responsible for direct intercellular communication were also seen.
TI Junctional structures in haemopoiesis: a study of **bone** marrow using freeze-fracture and **lanthanum** impregnation techniques.
AB Intercellular regions of contact in the haemopoietic compartment of normal rat **bone** marrow were studied using freeze-fracture and **lanthanum** tracer techniques. Small adhering junctions (like desmosomes and their variants) were found between haemopoietic and stromal cells but tight, gap. . .

L22 ANSWER 60 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1980:152227 BIOSIS
DN BA69:27223
TI TESTICULAR LESIONS OF COPRINE AND BENZ COPRINE.
AU JONSSON M; LINDQUIST N G; PLOEN L; EKVARN S; KRONEVI T
CS RES. DEP. TOXICOL., AB KABI, S-112 87 STOCKHOLM, SWED.
SO TOXICOLOGY, (1979) 12 (2), 89-100.
CODEN: TXCYAC. ISSN: 0300-483X.
FS BA; OLD
LA English
AB The effect on the testis of the disulfiram-like compounds [isolated from the inky cap mushroom, Coprinus atramentarius and later synthesized for investigation of their possible use in treatment of alcoholism] benzcoprine (N-[1-ethoxycyclopropyl] benzamide) and coprine (N5-[1-hydroxycyclopropyl]-L-glutamine) was studied in rats and dogs.

Severe degeneration of the seminiferous epithelium was induced in rats by subacute oral administration of each compound. Sixty days after termination of treatment with benzcoprine most seminiferous tubules contained only occasional spermatogonia and the testicular weight was markedly decreased. The blood-testis barrier was unaffected in the benzcoprine-treated rats as judged by a La tracer technique. In dogs, oral administration of benzcoprine for 1 mo. caused impaired spermatogenesis, degeneration of germ cells and a decrease in the testicular weight. Both compounds act directly on the germ cells; the effect is similar to alkylating compounds. Other effects of benzcoprine and coprine (bone marrow depression, lymphocytopenia, positive Ames test in organisms sensitive to base-pair substitution) are well-known properties of alkylating agents.

IT Miscellaneous Descriptors
COPRINUS-ATRAMENTARIUS RAT DOG SEMINIFEROUS EPITHELIUM SEMINIFEROUS TUBULES SPERMATOGENESIS IMPAIRMENT **BONE** MARROW DEPRESSION LYMPHOCYTOPENIA AMES TEST **LANTHANUM** TRACER TECHNIQUE

L22 ANSWER 61 OF 73 MEDLINE DUPLICATE 27
AN 77250792 MEDLINE
DN 77250792 PubMed ID: 330739
TI A modified technique to obtain uniform precipitation of lanthanum tracer in the extracellular space.
AU Shaklai M; Tavassoli M
SO JOURNAL OF HISTOCHEMISTRY AND CYTOCHEMISTRY, (1977 Aug) 25 (8) 1013-5. Journal code: 9815334. ISSN: 0022-1554.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 197710
ED Entered STN: 19900314
Last Updated on STN: 19900314
Entered Medline: 19771028
AB A method for obtaining a uniform, dense precipitate of **lanthanum** nitrate to delineate extracellular space is described. Improvement of the previous technique is achieved by phosphate precipitation of **lanthanum** in the tissue carried out at low temperature. This method has been successfully applied to **bone** marrow.
AB A method for obtaining a uniform, dense precipitate of **lanthanum** nitrate to delineate extracellular space is described. Improvement of the previous technique is achieved by phosphate precipitation of **lanthanum** in the tissue carried out at low temperature. This method has been successfully applied to **bone** marrow.

L22 ANSWER 62 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1977:28110 BIOSIS
DN BR13:28110
TI DISTRIBUTION OF SELECTED METALS IN TISSUE SAMPLES OF CARP CYPRINUS-CARPIO.
AU REHWOLDT R; KARIMIAN-TEHERANI D; ALTMANN H
SO Bull. Environ. Contam. Toxicol., (1976) 15 (3), 374-377. CODEN: BECTA6. ISSN: 0007-4861.
FS BR; OLD
LA Unavailable
IT Miscellaneous Descriptors
COBALT CHROMIUM IRON ZINC **LANTHANUM** SCANDIUM GILL LIVER KIDNEY **BONE** FLESH TOTAL BODY BURDEN EDIBLE TISSUE

L22 ANSWER 63 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1975:228802 BIOSIS
DN BA60:58798
TI SEPTATE-LIKE JUNCTIONS IN ABNORMAL ERYTHRO BLASTS.
AU BRETON-GORIUS J; FLANDRIN G; DANIEL M T; CHEVALIER J; LEBEAU M; SANEL F T
SO VIRCHOWS ARCH B CELL PATHOL, (1975) 18 (3), 165-180.

CODEN: VAAZA2. ISSN: 0340-6075.
FS BA; OLD
LA Unavailable
IT Miscellaneous Descriptors
HUMAN ULTRASTRUCTURE **BONE** MARROW REFRACTORY ANEMIA **LANTHANUM** PERMEABILITY TISSUE CULTURE INEFFECTIVE ERYTHROPOIESIS FREEZE ETCHING

L22 ANSWER 64 OF 73 WPIDS (C) 2003 THOMSON DERWENT
AN 1975-06240W [04] WPIDS
TI Ceramic compsns for **bone** implants - from alumina with oxides of zirconium **lanthanum** and yttrium.
DC L02 P32
PA (KYOC) KYOTO CERAMIC CO LTD; (KYOT) KYOTO CHEMICAL CO
CYC 2
PI JP 49045920 A 19740502 (197504)*
JP 51039654 B 19761029 (197648)
US 4155124 A 19790522 (197923)
PRAI JP 1972-89781 19720907
AB JP 49045920 A UPAB: 19930831
Ceramic compsns. for bone implants are formulated from Al2O3 and >=1 of ZrO2, La2O3 and Y2O3. The product is very stable phys. and chem. and compatible with the bone and tissues around it. X-rays do not penetrate the product so that the healing process can be obsd. by x-ray examn. In an example, a mixt. contg. Al2O3 and ZrO2 was kneaded and made into the desired shape. The product was sintered at 1600 degrees make a ceramic bone implant.
TI Ceramic compsns for **bone** implants - from alumina with oxides of zirconium **lanthanum** and yttrium.
TT TT: CERAMIC COMPOSITION **BONE** IMPLANT ALUMINA ZIRCONIUM **LANTHANUM** YTTRIUM.

L22 ANSWER 65 OF 73 MEDLINE DUPLICATE 28
AN 74089156 MEDLINE
DN 74089156 PubMed ID: 4811382
TI Inhibition of transport of 47Ca and 85Sr by **lanthanum** in canine cortical **bone**.
AU Paradis G R; Bassingthwaighte J B; Kelly P J
SO JOURNAL OF APPLIED PHYSIOLOGY, (1974 Feb) 36 (2) 221-5.
Journal code: 0376576. ISSN: 0021-8987.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 197403
ED Entered STN: 19900310
Last Updated on STN: 19970203
Entered Medline: 19740330
TI Inhibition of transport of 47Ca and 85Sr by **lanthanum** in canine cortical **bone**.

L22 ANSWER 66 OF 73 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1975:143280 BIOSIS
DN BA59:43280
TI CYTOCHEMICAL AND ULTRASTRUCTURAL STUDIES CONCERNING THE CELL COAT GLYCO PROTEINS IN NORMAL AND TRANSFORMED HUMAN BLOOD LYMPHOCYTES PART 2 COMPARISON OF **LANTHANUM** RETAINING CELL COAT COMPONENTS IN THYMUS DERIVED AND **BONE** MARROW DERIVED LYMPHOCYTES TRANSFORMED BY VARIOUS KINDS OF STIMULATING AGENTS.
AU ANTEUNIS A; VIAL M
SO EXP CELL RES, (1974) 90 (1), 47-55.
CODEN: ECREAL. ISSN: 0014-4827.
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